ANSWERS *to* QUESTIONS

5,000 Curious Facts for Inquiring Minds

by Frederic J. Haskin

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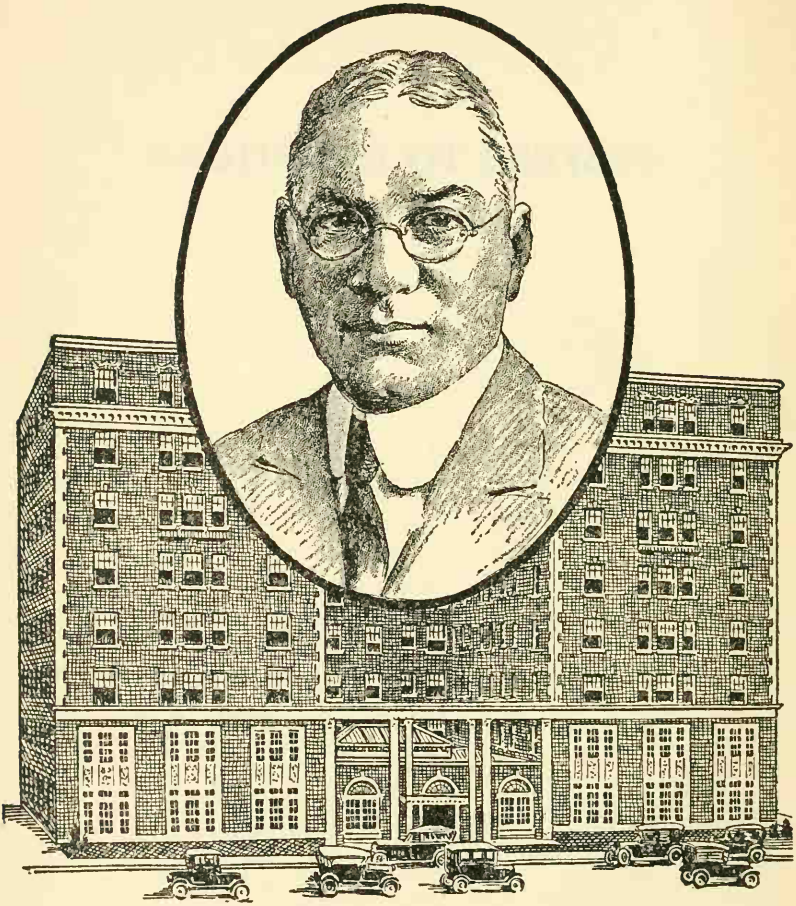
ANSWERS TO QUESTIONS



Frederic J. Haskin

Director of the world's largest information bureau which occupies 25,000 square feet of space in this modern building.

ANSWERS TO QUESTIONS

BY

Frederic J. Haskin

Author of "The American Government," "The Immigrant," "The Panama Canal," "Uncle Sam at Work," (motion picture), "The American Government," (revised).

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INTRODUCTION

The asking and answering of questions is a fundamental method of acquiring knowledge. The questions of children sometimes drive parents to distraction, but child minds are growing and developing while mature minds are too often stationary and dormant. Training students to ask intelligent questions is the aim of grade teachers, high school instructors, and college professors.

Men, women, and children in all walks of life are newspaper readers. The printed page is the endless trail of knowledge. The press is the mirror of life in that it is the reflection of man and all his works. It records his birth, his growth, and his death. It cries both his meanness and his greatness. Its singing wires run over the land and under the sea, and now its messages flash through the air. It is the voice of the world.

The newspaper articles by the author of this book gradually developed a large mail from readers asking questions about subjects which he had discussed. Pleased by the questions that his writings had inspired, the author set out to answer the inquiries which he received. As this became known, his mail increased until he was forced to obtain funds from the newspapers which he represented to pay for the cost of additional research work.

From this procedure was developed in Washington what is now the largest information bureau in the world. Its development is an evidence of the farsightedness and public spirit of American newspaper owners. The willingness of editors and publishers to give to their readers an unusual educational service made possible the Haskin Information Bureau as it stands to-day, with its large staff of experts, housed in its own new building, answering hundreds of thousands of questions each year, and distributing millions of educational booklets.

In no city other than Washington could this be done. Here is the seat of learning. In the Library of Congress, and the numerous departments of the Federal government, are found the answers to practically all questions of fact which may be asked. Through locating and using these official sources of information this institution has grown steadily and rapidly. It has become the focal point for American curiosity. This extraordinary newspaper bureau is in reality a national chamber of commerce, an easy contact for the citizen with his Government. More questions come to it than to any place on earth. Letters arrive from all parts of the world, some of them curiously addressed. The director answers more inquiries than any individual who ever lived.

It is also the most unusual school in the world. It costs nothing to go to it. It has millions of students. It offers a more diversified curriculum than any university. It spreads its knowledge through the daily press and the mails. It reaches the ditch digger and the captain of finance, the washerwoman and the social leader. It is open to anyone who can read and write. All a student is required to do is ask and it will answer. It is the school of universal information.

For years the readers of his Answers to Questions column in many daily papers have been asking Mr. Haskin to compile into book form the wonderfully interesting material which has passed through his hands. Recognizing that such a volume would not only have high reference value, but would make fascinating reading as a cross section of human curiosity and general knowledge, he has long had this purpose in mind, but the task of sifting and selecting, classifying and choosing, has been too great for earlier accomplishment.

This volume is unique in that half of it was written by five thousand people making direct queries, and the other half by one man answering them. Here is the essence of what America wants to know. It is as human as humanity itself. It is a running account of what has occurred in the past, a record of what is transpiring to-day, and a forecast of what may happen in the future.

I.

AGRICULTURE

Q. What is dry farming? W. D. F.

A. Dry farming is a scientific farming of land where there is a limited or unfavorable distribution of rainfall. Irrigation is not practised, the fertility and moisture of the soil being managed by a system of deep cultivation, rotation of crops and the plowing in of green crops.

Q. At what season of the year do farmers sell the most of their products? A. Y.

A. Over 42 per cent of the total sales from farms are made during the months of September, October and November, and farmers are said to have more ready money during these three months than during any other period of the year.

Q. In what proportion should a silo be built? T. E. H.

A. A silo should not be less than 30 feet high, the height being two and a half to three times its diameter.

Q. Are you sure that sugar cane is not used for roughage for cattle? M. F.

A. Sugar cane is never used dry for hay. Cane hay is used extensively, especially in the Middle West. Cane hay is sweet sorghum and is a different plant from sugar cane.

Q. Can the name of a farm be trademarked? D. A. O.

A. The Patent Office says that a trademark may be obtained for the name of a farm. If a farmer uses his farm name as a part of his selling operation in marketing his products, the trademark protects him in its use in interstate commerce.

Q. Are farms still being abandoned? C. A.

A. The Census Bureau announced on October 16, 1925, that more than 75,000 farms have been abandoned since 1920. They are mainly in the South.

Q. What is the average size of a farm in the United States? H. P.

A. Statistics on this subject vary from year to year. The average size of a farm in 1920 was 148.2 acres, as compared with 138.1 acres in 1910. The average acreage of improved land per farm in 1920 was 78.6 acres, while in 1910 it was 75.2 acres.

Q. In what country is farming best organized as an industry? F. E.

A. An agricultural economist who has been making such comparisons says that Denmark has the most highly organized agricultural industry in the world. The agricultural producers there have reached a high level of efficiency through cooperative enterprises in production, quality of production and distribution.

Q. What per cent of American manufactures depend upon agriculture? W. P. C.

A. Secretary Jardine said in a recent speech that 80 per cent of

our American manufactures are thus dependent.

Q. How many farmers have given names to their farms? H. F.

A. It is estimated that at least 3000 farms have been named. The Department of Agriculture favors the plan. Farms that have been given names are usually progressive, and products bearing farm names are usually those that the farmer is proud to claim.

Q. How many women living on farms never get a vacation? A. McC.

A. A recent survey of 10,000 rural homes in 33 states shows that 87 per cent of the women on farms never have any vacations.

Q. What is meant by gang plowing? M. E. C.

A. Gang plowing is plowing with a plow which has more than one disc or more than one share. Practically all the States in the West use this method of plowing.

Q. What part of the food that farmers consume, do they raise? F. A. F.

A. A survey reveals the fact that about 70 per cent of their food is raised by farmers, or exchanged locally. The rest is brought in by railroad. Possibly another 10 per cent could be produced economically at home.

Q. What is the smallest number of acres that constitutes a farm? W. N.

A. The Bureau of Census says that in their farm statistics the smallest farms are three acres, except smaller plots which had over $250 worth of products a year.

Q. I saw an editorial reference to the world's largest wheat field. Kindly state where it is? E. H. T.

A. The wheat field that you have reference to is owned by the Thomas D. Campbell Farming Corporation, Hardin, Mont. It comprises approximately 200,000 acres which Mr. Campbell leases through the Interior Department at Washington. This land is part of two Indian Reservations. In 1922 there was planted in wheat 40,500 acres, and over a million bushels of wheat were raised.

Q. Should corn suckers be pulled off? T. D.

A. Let the corn suckers grow. Leaving them on adds materially to the yield of both grain and forage.

Q. How can an eight hour day be practiced on a farm when cows have to be milked every twelve hours? N. B.

A. Farm help may work in shifts, or rest periods amounting to four hours may be planned in a twelve-hour day.

Q. Has the use of farm machinery helped the farmer materially? E. C. K.

A. On an average, an agricultural worker in this country is now able to care for about three times as many acres of crops as an individual could handle seventy-five years ago. This is mainly because of the increased use of mechanical power and of labor-saving machinery.

Q. Which is of more value to the farmer, the quail or the owl? E. M. L.

A. The Biological Survey says that the owl is of much greater value because it destroys a much greater number of farm pests, particularly field mice.

Q. What is there in commercial fertilizers? W. E. J.

A. They are made up of potash, nitrogen, and phosphoric acid.

Q. What is electro culture? C. M.

A. The Department of Agriculture uses this term to refer to practices designed to increase the growth and yield of crops through

electrical treatment, such as maintenance of an electric charge on a network over the plants or an electric current through the soil in which the plants are growing.

Q. Can land be judged by the weeds that grow on it? N. G.

A. The character of their growth indicates the quality of the soil. Wild carrot and the ox-eye daisy grow only upon poor soils, or soils that have been robbed of their fertility. Sheep sorrel indicates acid land, the necessity of applying lime to "sweeten" the soil. Bracken, sedge, and moss show that the land needs drainage. Dark green foliage and large size of plant and leaf are good indications of abundant nitrogenous food in the soil, while yellowish foliage and sparse stringy growth shows lack of this material.

Q. How much Federal money is spent on the State experimental farms? R. T. A.

A. The Office of Experiment Stations says that the experimental farm in each State receives annually $15,000 under the Adams act. $15,000 under the Hatch Act, and $20,000 in 1925 under the Purnell Act. The amount will be raised $10,000 annually under the Purnell Act until $90,000 a year is reached.

Q. Where are the best grass lands in Europe? S. M.

A. The Bureau of Plant Industry says that probably the best are in northern France.

Q. What does it cost the Government to try to control insects and diseases of plants and animals? N. M. W.

A. In the year 1924 the Department of Agriculture spent $10,300,000 or 24.3 per cent of the total expenditure for this work.

Q. Could Death Valley be farmed? C. H. W.

A. So far as the soil is concerned, it might be possible to grow crops over a considerable portion of the valley if irrigation water were applied. It is probable that the soils are quite salty, and it might be necessary to remove excess of salt through the operation of flooding and leaching combined with thorough underdrainage.

Q. Why are legumes useful in crop rotation? J. E.

A. It is because they have nitrogen-fixing qualities.

Q. Is it harmful to sow oats in an orchard? L. A. L.

A. Oats should not be sowed in an orchard in the spring so that they would grow and take moisture from the fruit trees during the bearing season. If winter oats sowed in the fall were used as a cover crop for winter, the orchard would not be harmed.

Q. What per cent of farm land is used for the production of food for human consumption? M. P.

A. About two-tenths of the 365,000,000 acres of land in the United States occupied by crops harvested in the census year 1919, or about 76,000,000 acres, produced food for human consumption; seven-tenths or approximately 257,000,000 acres of land produced forage crops and one-tenth was used for other purposes, principally to produce cotton, fibre, flax, and tobacco.

Q. What is the difference between white alkali and black alkali soil? E. C. McK.

A. White alkali soil contains salt while the black soil contains sodium carbonate which is stronger than salt. White alkali does not interfere with the crops while black alkali does. An inexperienced person could not tell the difference as it requires special instruments for making this test.

Q. Is Palestine as fertile as it was in the days of Christ? E. S.

A. Reports say not. Much of the land needs fertilizing and scien-

tific planting. This is now being accomplished, for the most part with American money.

Q. Why are barberry bushes being exterminated where wheat is an important crop? H. M. G.

A. Barberry bushes harbor a rust that attacks wheat. For that reason they are undesirable in wheat-growing sections.

Q. What is a man called who studies crop production? B. C.

A. All farmers study crop production, but a man who specializes in the branch of agriculture that deals with theory and practice of crop production is called an agronomist.

Q. How much land is under cultivation in the world? F. T. M.

A. It has been estimated that of an area of fifteen billion acres, about one and one-half billion are under cultivation.

Q. Do sugar beets exhaust the land? T. P.

A. It is claimed that sugar beets are a great crop-yield stimulator. After ground has been used for sugar beets other crops are found to increase 50 to 80 per cent in tonnage.

Q. What are considered the three principal agricultural uses of land? W. A. C.

A. The three principal agricultural uses of land are for crops, for pasture, and for forest. These uses are partly competitive and partly complementary in their land requirements.

Q. What can be done to keep crows from eating corn after it is sown? D. C. H.

A. The Department of Agriculture says that if corn is dipped into tar pitch before sowing, the crows will not eat it. Allow a pint of tar to one-half a bushel of corn. Put the corn in a measure, pour in the tar, and stir until every kernel has come in contact with the tar.

Q. Is there a simple test for acid or sour soil? E. H. A.

A. A rough test for soil acidity is to place blue litmus paper between two layers of the soil. If the litmus paper turns red the soil is acid.

Q. Does the Government interest itself in the agricultural welfare of Alaska? D. T. G.

A. The Department of Agriculture operates five experimental stations to promote the agricultural development of Alaska.

Q. What is ideal garden soil? A. M.

A. The ideal garden soil is a mellow, well-drained loam. As a rule sandy loams will produce early crops, but the stiffer clay loams usually give larger yields.

Q. Will you please tell me how to get rid of toadstools in the garden? C. A.

A. Toadstools usually indicate that the soil is too acid. They sometimes appear after a very rainy season and disappear again as soon as dry weather comes. The most effective remedy is liming the soil.

Q. Where was the first agricultural experiment station located in this country? J. K.

A. The first regularly organized agricultural experiment station in America was established at Wesleyan University, Middletown, Connecticut, in 1875, under the direction of Dr. W. O. Atwater.

Q. Why won't trees grow well in a town where soft coal smoke and coal dust are in evidence? D. W. T.

A. Soft coal smoke deposits a coating of carbon and coal ash upon the leaves of trees which interferes with the natural functioning of the breathing pores of leaves. Smooth-leaved trees, such as evergreens, suffer most because

of the coal-smoke deposit that lies in close contact with the leaf surface. The hairy or woolly leaf-coverings of some other trees prevent the forming of a compact coating over the leaf surfaces. Such trees endure a smoky atmosphere much longer.

Q. How much would it be possible to add to the acreage of the farms in the United States? K. L.

A. It is possible to increase the area of improved land about 300,000,000 acres, or 60 per cent. This would be accomplished by irrigation, drainage, clearing and dry farming.

Q. Are there any statistics to show the economic loss resulting from the sale to farmers of impure seed? M. McM.

A. It is estimated that in one year the farmers in Wisconsin suffered a loss of $67,000,000 through impure seed. Such seed also have caused heavy losses in Maryland, New York, Minnesota, and Michigan. The possibilities are indicated by the fact that more than 43,000 undesirable seeds have been found in a single pound bought on the market. An effort is being made to prevent the sale of such seed.

Q. Is all the land that has been reclaimed by irrigation suitable for agriculture? P. S. B.

A. It is estimated that one-tenth of the irrigated lands of our western states contains an amount of alkali salts that is detrimental to crops. About 1,500,000 acres of this land presents this problem.

Q. How long is the growing season in Indiana compared with New England's? A. R.

A. Indiana, Illinois, Ohio, Missouri, and Kansas have a growing season of from 150 to 180 days. In the New England States the season is from 120 to 160 days long.

Q. How long has rotation of crops been practiced? P. C. A.

A. The folly of growing the same crop on the same land for several successive years was noted by the Romans, but the attention was first called to the value of crop rotations in 1777 in a treatise by Dickson, of Edinburgh, Scotland.

Q. How much damage does the Hessian fly do to the wheat crop? C. M. R.

A. The Bureau of Entomology says that the wheat crop was reduced by at least 40,000,000 bushels as a result of the infestation of the Hessian fly.

Q. May alfalfa or similar crops be planted with grapes? A. M. G.

A. The Department of Agriculture says that if your object is to enrich the soil by growing cover crops, it is a good practice. In this case the crops should be planted for a season or two before you start planting the grape vines on the same ground. The practice of interplanting or growing not only grapes but another crop at the same time, would be of advantage for the first two seasons only.

Q. How many car loads of potatoes are used daily in the United States? N. W.

A. Approximately 2,000 car loads of potatoes are used each day in this country.

Q. What is the annual crop loss of tobacco and cotton? E. L. R.

A. The average loss is: tobacco, 396,300,000 pounds; cotton, 3,371,000,000 pounds.

Q. What is broom corn? B. E. F.

A. Broom corn is a plant of the order of Gramineae, generally regarded as a native of the East Indies and cultivated for the manufacture of brooms and whisk brushes from the open long-rayed panicles.

Q. Is there any grain that the

Hessian fly does not bother? Q. T.

A. The Hessian fly does not attack oats at all. It is chiefly injurious to wheat, but sometimes injures barley and rye.

Q. Why is the second crop of clover better for seed than the first crop? M. F.

A. The second crop of clover produces better seed because it is more highly fertilized by the bees, moreover weather conditions are generally more favorable for the production of seed on the second crop.

Q. What is the oldest forage crop grown, and what is the best? B. T. N.

A. Alfalfa is the oldest plant, so far as known, to be cultivated solely for forage. It was grown by the Greeks and Romans. According to Pliny, it was introduced into Greece from Media at the time of the Persian wars with King Darius, about 470 B. C. Media or Persia is probably the region of its original culture. Red clover is the most important of all leguminous forage crops both on account of its high value as feed and from the fact that it can be so well employed in rotations.

Q. Why does Europe produce so much larger crops to the acre than the United States? R. E. C.

A. It is necessary in Europe, since crop area is limited to lay emphasis on this. In America where land has been abundant such economy has not been attempted. Here, the effort has been directed toward productivity per man, and it is shown that Europe's superior productivy per acre is more than offset by United States' superior productivity per man.

Q. Would corn develop perfectly if the tassel is cut off the ear? E. H. D.

A. The tassel or silk of corn is simply the means of pollenating the kernels. However, if the tassel is cut off the ear is damaged to such an extent that the kernels will not form properly.

Q. Is wheat grown in Alaska? F. G.

A. Some wheat has been grown in Alaska and it has been demonstrated that it is possible to raise there a great part of the wheat needed in the Territory.

Q. What is the per capita consumption of wheat as flour in the United States? W. G. S.

A. It is estimated that four and a half bushels of wheat, equivalent to about 200 pounds of flour, are consumed annually per capita in this country.

Q. What percentage of farm crops are cereals? H. N. P.

A. During 1921 the value of cereals produced was $2,563,000,000 or 36.5 per cent of the crop total.

Q. Please describe the condition of corn when it is ready to be cut for the silo? C. C. A.

A. When corn is ready to be cut for ensilage the lower leaves will be dead, some of the husks will have turned brown and the ears will be hard but the stalks and upper leaves of the plants will still be green and succulent.

Q. What was the highest price cotton reached during the past few years? D. E. R.

A. In 1919 cotton sold for 43 cents a pound at Memphis and Galveston.

Q. What South American country produces the most cotton? K. L. C.

A. Brazil leads the Latin-American countries in cotton production with an annual crop of 207,000,000 pounds.

Q. Is there any State in which corn is not produced? N. D.

A. It is grown in every State in the Union.

Q. Where are the different kinds of wheat grown? L. E.

A. The near Northwest, which includes Minnesota, the Dakotas, and parts of adjoining States, grows hard spring wheat; the Southwest, also Nebraska and Kansas, grow hard winter wheat; the East and States as far west as Missouri and Iowa grow soft winter wheat. These areas overlap to some extent.

Q. How much water is needed for raising crops by irrigation? E. W. P.

A. The amount of water needed for raising such crops varies with the character of the soil, but agricultural investigators have found that from 300 to 500 or more pounds of water is required for every pound of dry matter produced.

Q. What is the record yield of wheat on one acre of land? R. L. M.

A. The record of 117.42 bushels of wheat raised on an acre of land in Ireland County, Washington, in 1895, has not been equalled.

Q. What proportion of the world's crops of cotton, corn and tobacco does this country produce? W. T. M.

A. The Unied States produces annually about 70 per cent of the worlds' corn, 60 per cent of its cotton, and 50 per cent of its tobacco.

Q. What per cent of India is in rice and what per cent in wheat? L. J.

A. For the year 1920-21, the area under rice in India was 78,-023,000 acres, or about 31 per cent of the cultivated area of the country. The portion in wheat was 25,722,000, or about 9 per cent of the cultivated area.

Q. If an extra kernel were added to each ear of corn grown what would be the increased crop? F. S. A.

A. It has been estimated if a corn were developed that produced an extra kernel to each ear the yearly corn crop of this country would be increased by more than 5,000,000 bushels.

Q. How much corn can one man plant in a day? E. C.

A. With a hand corn-planter one man can plant 4.40 acres a day; with a one-horse one-row corn-planter he can plant 6.90 acres; with a two-horse two-row corn-planter he can plant 13.60 acres.

Q. How long has sugar corn been grown? R. F. O.

A. The Indians at the time America was first settled were found cultivating dent, flint, sugar corn and podcorn.

Q. Why does corn always have an even number of rows? F. H.

A. This peculiarity is due to a botanical characteristic; that is, the splitting of the cells which forms double rows.

Q. Will wheat grow wild? H. T. T.

A. There is no evidence, authorities state, for believing that wheat will grow wild.

Q. What was the highest price for cotton during the Civil War period? O. A.

A. In 1865 cotton sold at 43 cents a pound, which is believed to be the highest price established during the Civil War period.

Q. Is the new Axminster wheat rust resistant? N. L. C.

A. This new wheat developed by Samuel Larcombe of Bitite, Manitoba, shows almost perfect resistance, but no claim is made that it is entirely rust resistant.

Q. How high does corn usually grow? E. H.

A. The average height of corn is between seven and eight feet.

Q. What percentage of the corn crop is used directly for human consumption? M. C. R.

A. The Department of Agriculture estimates that 40 per cent of the United State's corn crop is fed to swine, 20 per cent to farm horses, 15 per cent to cattle, and 5 per cent to other livestock, while 10 to 15 per cent is used for human food.

Q. How much corn can be husked in one day by one man? C. A.

A. A good husker can make as high as 100 bushels, but the average under average conditions is from 50 to 75 bushels in the corn belt.

Q. In the last decade, how great an addition has been made to the producing area of the great plains farming area? E. C. R.

A. W. E. Grimes of the Kansas State Agricultural College says that the addition is from 10,000,000 to 15,000,000 acres of prairie sod.

Q. What is the record yield of potatoes per acre in the United States? W. C. H.

A. The Department of Agriculture says that the record yield of potatoes per acre in the United States is 974 bushels and 48 pounds or 58,488 pounds. This was grown in the year 1890 by Mr. Sturgis of Johnson county, Wyoming.

Q. What does a bushel of wheat represent in labor? G. M.

A. Statisticians estimate that a bushel of wheat can now be raised with the expediture of but 10 minutes of the farmer's time, as compared with 3 hours and 3 minutes in 1850.

Q. Why won't field corn pop? G. C. S.

A. The reason common field corn does not pop like pop corn is that pop corn is a special variety of Indian corn which on exposure to dry heat is popped or burst open by expansion of the oil. It is a difference in characteristics of the two varieties.

Q. What is the maturing period of corn? K. L. H.

A. Under average conditions, corn matures in one hundred days from seeding time. One of the greatest advantages of a corn crop is the dateless period of the harvest. Once ripe, it needs no haste in gathering, stands in the husk or shock unaffected by exposure, not wasting or shattering from the ear, awaiting the convenience of the farmer.

Q. Where was rice first used? F. J. O'B.

A. Rice is as old as history. Probably it had its origin in India approximately 3,000 B. C. from a plant called Newaree and Nivaria. Rice is mentioned in the Talmud and is referred to by numerous Greek and Roman writers.

Q. How long have there been county agents to help in farm matters? A. E. K.

A. The first county agent or farm advisor started on his duties March 20, 1911. This was J. H. Barron, who began work in Broome County, N. Y., On June 30, 1926, there were 2,107 county agents and 114 assistant county agents.

Q. How long has the United States been exporting cotton to Europe?

A. The first bale of cotton exported from this country to Europe was shipped from Charleston, S. C., in 1784.

Q. When should rice be thrashed? R. E. K.

A. It should not be thrashed

until it has been in the shock at least two weeks.

Q. When was alfalfa first grown? G. E. H.

A. Alfalfa hay has been cultivated in Europe for more than 2,000 years and in 1854 it was brought from Chile to California, whence it spread rapidly over the semi-arid regions of the Pacific and Rocky Mountain States.

Q. What can be grown on land when the original crop has been ruined by flood? J. T. D.

A. The most promising crop universally from a late planting is cowpeas. Some varieties of soy beans, sorghum, German millet and Sudan grass are also successfully grown from late plantings.

Q. How much popped corn will one pint of shelled corn make? P. D.

A. It depends upon its condition. It should make from six to eight quarts. Corn often becomes too dry to pop. If kept in a covered crock, it usually pops easily.

Q. Is alfalfa known by any other name? K. R. M.

A. Alfalfa is also called lucerne.

Q. Where is most of the cotton raised? J. J. P.

A. The United States produces approximately three-fourths of the world's cotton; India and Egypt being the only other countries whose crop is of much commercial importance. China and Russian Turkestan produce considerable cotton, but the crop is consumed almost entirely within the country of production. A little cotton is grown in Eastern Brazil, in Peru, in Mexico, and in Asiatic Turkey. The extensive production of cotton is restricted to regions having the average frostless season of 200 days or more, and 95 per cent of the world's crop is grown south the 37th parallel of latitude.

Q. What percentage of the land area of the United States produces crops? M. E. R.

A. About 19 per cent.

Q. What are green manure crops? R. O'B.

A. This term is applied to crops grown for the purpose of being plowed under to replenish the supply of organic matter. Clovers and cowpeas are most frequently used for this purpose.

Q. What is alfalfa tea? L. B.

A. Alfalfa tea is made by pouring boiling water on the hay or by stirring alfalfa meal into cool water, allowing it to stand several hours, then straining. Some grain is added to the tea and it is used as a feed for pigs and calves. Tests have been made to determine its value, but as yet it has not been concluded that the results justify the expenditure of time and energy.

Q. How much hay can a man rake in one day with a one-horse hay rake? J. D.

A. The per diem performance of farm machinery as worked out by the Department of Agriculture gives 16.30 acres as the day's work for a one-horse hay rake.

Q. Can a person tell by looking at soil whether it contains too much alkali for growth of crops? F. S. C.

A. It is impossible to tell how seriously a soil is affected with alkali by merely looking at it. A chemical analysis must be made. However, the native vegetation is one of the best indications of the presence of alkali. If sagebrush is growing vigorously, probably alkali content is not excessive. Shadescale, greasewood, salt weed and salt grass indicate a dangerous amount.

Q. What is the best kind of corn? D. S. A.

A. The Illinois Seed Corn Breeders' Association recognizes eight distinct races of corn, which are the bases for the development of many strains produced by individual breeders, as follows: Boone County White, Silver Mine, White Superior, Leaming, Reid's Yellow Dent, Golden Eagle, Riley's Favorite, and Pride of the North. There is no consensus of opinion as to the best kind of corn.

Q. Is it true that wheat turns to cheat? K. D. H.

A. Cheat or brome grass, the troublesome weed found in wheat fields, is a perennial grass. The seeds retain their vitality for a long time and frequently appear in grain fields where from some cause the cereal has been destroyed. To this fact the somewhat common belief that "wheat turns to cheat" is to be attributed. There is no foundation for such an idea.

Q. Is it true that wheat grows on every continent? If so where does the United States ship her exports? P. A. M.

A. Wheat is cultivated to some extent in every civilized country. Few countries in the world raise more than enough wheat to feed their own people. Russia, the Danubian states, the United States, the Argentine, Canada, Australia, and India always have wheat for sale. The United Kingdom, Germany, the Netherlands, Scandinavia, Belgium, Italy, France and Brazil must import a considerable part of the wheat or wheat flour they use.

Q. What year, month and day was the big freeze in Ohio that destroyed the wheat crop and other vegetation? F. C.

A. The big freeze in Ohio occurred on June 5, 1859.

Q. Why is cotton so often a contraband of war? G. R.

A. This is because cotton is the principal ingredient of smokeless powder, and can best be combined with nitric acid to produce a high explosive.

Q. What part of the total crop of sugar cane grows in Louisiana? C. H. B.

A. Nine-tenths of America's 250,000-ton cane sugar crop is produced in Louisiana.

Q. How many kernels of oats would it take to fill a standard grain sack? Y. J.

A. There are approximately 150,000 kernels of oats in a standard size sack.

Q. Will corn that has been kept for centuries grow if it is planted? F. J. B.

A. The life of corn, in favorable circumstances, rarely exceeds ten years.

Q. What color is pure essence of peppermint? E. I. B.

A. It is colorless. In making the essence of peppermint, bruised peppermint leaves are used to give it a green color.

Q. What is the difference between white and black pepper? A. D.

A. White pepper is well-ripened black pepper.

Q. How often should sage be picked? M. P.

A. Sage should be picked but once the first year but three pickings may be made in subsequent years without weakening the plant.

Q. When was wheat domesticated? E. D. S.

A. The origin of wheat is unknown. Its cultivation antedates history. Most ancient monuments show by inscriptions that it was already domesticated at a very early period. It was cultivated early in the Stone Age.

II

AIRCRAFT

Q. How far does the man fly in writing a sign on the sky? G. M.

A. The aviator who recently wrote a two-word name on the sky, says that he traveled from 10 to 15 miles while writing it.

Q. How much faster is airplane service than dog team? P. T.

A. In experimental service between Fairbanks and McGrath, an airplane covered a distance in six hours that a dog team had traveled in 35 days under great difficulties.

Q. How far away can an airplane be seen? M. H. H.

A. An airplane can be seen under favorable conditions from about 10,000 to 15,000 feet.

Q. How high was the mast that the Shenandoah was tied to? E. McK.

A. The mooring mast for the Shenandoah was 165 feet in height.

Q. What is the weight per horse power of airplane engines? M. O'C.

A. Two of the latest aviation motors developed have one horse power to 1.04 pounds of motor weight.

Q. Name the kinds of airplane engines used by the Army and Navy. G. F. T.

A. The following are the kinds in the order of their use: Liberty, Packard, Curtiss, Wright, Lawrence, and Pratt Whitney.

Q. How is an airplane started when the engine stops while the plane is in the air? A. L. M.

A. An airplane engine having stopped in the air can not be started without a self-starter. This works on the same principle as an automobile with the engine choked. Sometimes a nose dive of sufficient distance will start the plane. However, this can not be depended upon.

Q. Can an airplane make a safe landing with only half a propeller? W. J. K.

A. It can be done.

Q. Can a dirigible go through an air-pocket? I understand that an airplane can not. J. S.

A. A dirigible can go through a pocket. An airplane can also go through a pocket, but doing so causes the plane to be jolted.

Q. What is the average cost of an airplane and a hydroplane? K. C. C.

A. It would be hard to give the average cost of a hydroplane and airplane. An airplane of 100 horsepower would cost from $2,500 to $4,000. With the increase in the horsepower the cost increases. The figures for the cost of a hydroplane would run approximately the same.

Q. In what airship accident did the greatest loss of life occur? H. K.

A. The Roma disaster on Feb-21, 1922, near Hampton Roads perhaps incurred the greatest loss of life in an airplane disaster. Out of 45 men aboard, only 11 were saved and most of them seriously wounded.

Q. What reward were the Round-the-World Flyers given? I. H.

A. They were promoted 500 files in their rank, i. e., they were given credit for 500 points of service, etc., in reaching the next higher grade.

Q. Can enlisted men in the Army and Navy pilot airplanes? B. T. S.

A. An enlisted man in the Army Air Service after completing his pilot training, can pilot an airplane. An enlisted man in the Naval aviation provided he has flying designation can pilot a plane.

Q. How is the firing of a machine gun on an airplane regulated so that the stream of bullets does not cut the blades of the propeller? H. M. T.

A. A mechanical synchronizer is used in all countries on combat machines. This device, which is attached to the propeller and gun mechanism, shoots between the blades of the propeller.

Q. Who made the first trip across the Grand Canyon in an airplane? C. G. T.

A. Lieutenants Searle and Jones made the first trip ever attempted in the spring of 1919. They crossed the chasm at the junction of Diamond Creek and the Colorado River Canyon, which at this point is about 2,000 feet across, with a sheer drop of 7,000 feet. They flew across at an altitude of 13,000 feet.

Q. Who christened the Shenandoah? W. H. B.

A. Mrs. Denby, wife of the Secretary of the Navy at that time, christened the ZR-1 the Shenandoah.

Q. Has merchandise been carried across the ocean by an airship? R. W. R.

A. The first package of this kind was brought over by the ZR-3. It contained a small consignment of toys.

Q. Did the United States have any rigid airships during the World War? W. W. H.

A. The United States has never had any airships of this type previous to the Shenandoah and the Los Angeles. It did operate a few non-rigid airships.

Q. How many United States aviators and airplanes were lost in the World War? H. L. L.

A. The number of aviators killed in the American Expeditionary Forces was 498; deaths by battle, 234; deaths by accident, 264. In the American Expeditionary Forces 289 United States airplanes were destroyed and 45 balloons.

Q. What kind of an airplane was Quentin Roosevelt flying when he was killed? G. I. T.

A. The machine was a Nieuport 28 with a 150 horsepower Gnome engine. The plane's number was 14, and it bore the insignia of the 95th Aero Squadron—a bucking bronco.

Q. How much mail does a mail plane carry? D. A. G.

A. The Post Office Department says that planes in the Air Mail Service carry between 300 and 400 pounds of mail matter. The quantity varies, however, with the time of flight as much lighter loads are carried at night because of the additional equipment necessary for night flying.

Q. Who brought down the most airplanes during the war? J. R.

A. Capt. Rene-Paul Fonck of the French Army brought down the greatest number of planes during the World War. He has 75 planes to his credit.

Q. What percentage of deaths in airplane accidents are caused by the performance of stunts? R. K.

A. It is estimated that more than 40 per cent of airplane deaths

and injuries are caused by stunting.

Q. What is the purpose of experiments with gliders? H. L. B.

A. Gliding and soaring experiments look to the production of highly efficient carriers which will transport heavy loads with very low horsepower. This would make commercial transportation a paying proposition.

Q. What size airplanes carry passengers from London to Paris? W. B.

A. Airplanes are used of various capacity. Some accommodate only two passengers, while others take as many as twelve.

Q. Can a dirigible stop in mid-air? L. B.

A. In perfectly still air, it will hover by stopping the engines, while in a wind the engine can be fixed to counteract the wind.

Q. How do airplanes manage to alight in London when it is foggy? M. O.

A. Rockets are sent up from the airdrome. These penetrate the fog mist and explode brilliantly in the clear air above.

Q. Is an airplane engine as powerful when high in the air as it is near the earth? W. S. H.

A. The Bureau of Standards says that engine power drops to one-third its sea-level value when the plane rises to 30,000 feet. The steady drop in air pressure causes this.

Q. How is skywriting done in an airplane? F. S.

A. In an advertising campaign skywriting was employed. The letters were a half mile high; the smoke used was made chemically in the plane and emitted through a pipe in the tail which was equipped with a shut-off controlled by the pilot.

Q. Who was the first woman to fly? A. N. S.

A. A French woman, Madame Tible, was a passenger in a Montgolfier balloon at Lyons in 1784. This is the first recorded ascent by a woman.

Q. How fast does an airplane ascend? H. H.

A. The climb of an airplane is approximately from 400 to 1200 feet per minute.

Q. Who originated the idea of airplane sky-writing? F. W. S.

A. Art Smith, an aviator from Fort Wayne, Indiana, is credited with it.

Q. What is the lowest horsepower engine used in an airplane? K. Z.

A. The lowest used is a three horsepower engine used in the Dewoitine Light Airplane, D-7.

Q. How does a speedometer work on an airplane? A. K.

A. There is no real speedometer on an airplane. There is an air speed indicator which records the relative speed of the plane to the air, not necessarily the speed of the plane relative to the ground.

Q. What is meant when it is said that an airplane taxis? N. M. I.

A. To taxi is to run an airplane over the ground or a seaplane over the water.

Q. Please give the names of the devices used on aircraft to determine the density of the atmosphere, the temperature, and the speed of the craft? E. L. B.

A. The density of the atmosphere is determined by an altimeter on an airplane; the temperature by a thermometer; the speed by an air speed indicator.

Q. How many kinds of balloons are there? N. M. W.

A. Balloons are of the following types: Free—for sport use and

training of pilots. Kite, observation or drachen, whichever name may be applied—captive, for observation. Dirigible (airships) —steerable. Sounding balloon, pilot balloon—small, one to test air currents or with recording instruments. Propaganda balloons—small ones to carry circulars, etc.

Q. What is an ornithopter? L. P. H.

A. An ornithopter is a flying machine with flapping wings, or movable planes.

Q. How slowly can an airplane travel and remain in the air? H. D.

A. This depends upon the plane. Roughly, it would be from 40 to 50 miles per hour. The lowest air speed is that speed just above the stalling point. The stalling point is at the point where the air lift on the wings is less than the weight of the airplane, practically little above taking off speed which is 40 to 50 miles per hour.

Q. What kind of an airship is a blimp? O. W.

A. Blimp is used to designate a non-rigid airship driven by an engine installed in an aeroplane fuselage slung beneath the gasbag.

Q. Are gears used on airplanes? R. L.

A. The Air Service says that a few airplane engines have geared-down propellers, but most of them have a direct drive.

Q. Can an airplane fly upside down for a distance of five miles? E. M.

A. The Air Service of the Army says that no plane has ever been known to fly upside down for a distance of five miles, or even for one mile. A plane can fly in that position for a short distance only.

Q. How far does a seaplane travel before it takes the air? K. McG.

A. It would depend upon the size of the plane, and the horsepower in relation to the wing load. The average distance, however, is about 100 yards.

Q. What causes the peculiar drumming sound of the airplane in flight? H. L. D.

A. The rush of air through the struts and wires of an airplane in flight cause that drumming sound. This is about 10 per cent of the noise made by an airplane in flight.

Q. What is the difference between the lifting capacity and the carrying capacity of an airplane? M. A. T.

A. The lifting capacity of an airplane is its maximum flying load. Its carrying capacity is the difference between this load and the dead load of the aircraft, which includes structure, power plant, and essential accessories.

Q. May a private airplane land on a Government landing field without special permission? C. J. H.

A. A private plane may land.

Q. Did the Shenadoah carry a mascot when it was wrecked? S. A.

A. It did not.

Q. Please describe a rigid and semi-rigid airship. Which is the ZR-3? A. F.

A. The ZR-3 is a rigid airship. An airship is an aerostat provided with a propelling system and with means of controlling the direction of motion. If its power plant is not operating, it acts like a balloon. A non-rigid airship is an airship whose form is maintained by the internal pressure in the gas bags and balloons. A rigid airship is an airship whose form is maintained by a rigid structure. A semi-rigid airship is an airship whose form is maintained by means of a rigid or joint-

ed keel in combination with internal pressure in the gas containers and ballonets.

Q. Can a colored man enlist in Army and Navy aviation? F. E. B.

A. There are no negro units in the Army Air Service, neither are there negroes in Naval aviation.

Q. What must be the area of a parachute to allow a man weighing 150 pounds to descend in safety? I. J. N.

A. A man weighing 150 pounds should have a parachute 24 feet in diameter having an area of 652 square feet. In still air he will drop at the rate of speed of from 8 to 10 feet per second.

Q. What is an airscape? L. V. S.

A. This is a coined word used to describe a picture taken from an airplane. It will probably displace the old term, bird's-eye view.

Q. How do airmen keep themselves warm when flying? C. R. F.

A. Aviators when flying in high altitudes wear electrically heated clothing, suits which are wired with batteries. These suits are also fur lined.

Q. What is a man-mile? J. T. M.

A. Man-mile is an aeronautical term. By man-mile is meant the number of miles flown by each man in any one plane. For instance, a plane carrying two people to a station 50 miles distant and return, will carry out 200 man-miles of cross country flight.

Q. Is it proper to say aeroplane or airplane? E. G.

A. Airplane is the English word officially used in the United States Army and Navy. Aeroplane is the French word. As the French were the first to use the airplane extensively the French word was accepted, and up to the War the airplane was called the aeroplane.

Q. How much room is taken up by a folded parachute? R. M.

A. The smallest space in which a parachute can be folded is approximately 18 by 18 by 4 inches.

Q. Is it true that a person is not aware that he is upside down in an airplane as far as physical sensation goes? W. W. W.

A. One undergoes practically the same sensations when upside down in an airplane as he does when standing on his head on the ground.

Q. How long are airplanes used before they are worn out and discarded?

A. The planes used are inspected frequently, and worn parts constantly replaced. For this reason it is not possible to say how long a plane would last.

Q. How many civilian airplanes are there? P. M.

A. An unofficial estimate shows that there are 1,800 to 2.400 civilian aircraft in the United States.

Q. Did Commander Rodgers and his men use their shirts for sails as Secretary Wilbur said they probably would do? R. F. T.

A. Commander Rodgers reported that the men on the disabled hydroplane used their shirts for sails.

Q. Where is a Federal pilot's license for airplane obtained? H. O. H.

A. There is no Federal pilot's license given to an airplane pilot.

Q. Is it possible to change hydrogen gas for helium once a dirigible is built? I. F. B.

A. The Los Angeles can be flown with either helium or hydrogen. The airship can be deflated and reinflated with either of these two gases. The ZR-3 made its initial trip inflated with hydrogen, but was deflated and filled with helium, as it is against the policy of the Navy to use any other gas.

III

AMERICAN GOVERNMENT

Q. What constitutes the supreme law of the land? F. K.

A. The Constitution of the United States, together with foreign treaties and acts of Congress made under its authority, are the supreme law of the land.

Q. How many people are employed in such a way as to be on a Government payroll in the United States? T. I. Y.

A. The National Industrial Conference Board says that the aggregate of active and inactive persons on the payrolls of all governments in this country numbers close to 3,400,000. This amounts to one in twelve of all persons 16 years of age or over who are gainfully employed.

Q. When did women first work for the Government? M. E. G.

A. The Assistant Treasurer of the United States says that in the spring of 1862 Mr. F. E. Spinner, Treasurer of the United States, prevailed upon Secretary Chase to permit him to appoint a woman to cut and trim United States currency. This work was then done with shears in the hands of men. He appointed Miss Jennie Douglas, and as he afterwards expressed it, "Her first day's work settled the matter in her and in woman's favor." On October 9, 1862, the following women employees were appointed: Miss Fannie L. Halstead, Miss Annie York, Miss Belle S. Tracy, Miss Elizabeth Stoner, Miss Mary Burke. These women were the first for whom Congress regularly made an appropriation.

Q. Can a Government clerk's salary be garnisheed? J. J. R.

A. The Civil Service Commission says the salary of a Civil Service employee, can not be garnisheed.

Q. What is the oath taken by cabinet members? J. B. C.

A. The oath taken by cabinet members before the Appointment Clerk as they are about to take over the duties of the office is "I (John Jacob Jones) do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties of the office on which I am about to enter: So help me God."

Q. How many Secretaries of State have been lawyers? R. E. W.

A. Forty-three Secretaries of State have been lawyers. One banker, one editor, and one minister complete the list of men who have had this portfolio in the Cabinet.

Q. Give comparative cost of the maintenance of our President and the King of England. R. M. D.

A. The total bill for the expenses of the President and the upkeep of the White House is about $400,000 a year. The civil list of King George of England approximates $2,888,900.

Q. If a cabinet official is impeached what punishment is given him? I. D. S.

A. The only penalty in case of conviction in a Federal impeachment proceeding is removal from office and disqualification from further public service, but the person convicted is still liable to punishment by the ordinary courts, and he cannot receive a reprieve or pardon from the President.

Q. If the term Post Office Department is correct, why not War Office or State Office Department? C. S.

A. Post Office Department is the correct term, since it is the official title of this executive department of the Government. The departments derive their official titles from the phraseology employed in the acts of Congress which are passed creating such departments.

Q. Have men ever been required by law to accept public office? V. E. G.

A. It was difficult in earlier years to induce men to fill minor public places and laws were passed in Rhode Island, which remained on the statute books for many years, providing penalties for refusal to accept office.

Q. Does a President pro tem of the Senate receive a Vice President's salary? G. R.

A. In case of a vacancy in the Vice Presidential office the President pro tem of the Senate does draw the salary of a Vice President as presiding officer in the Senate. When a Vice President is President of the Senate, the Senator who is appointed to fill his place during absences, has only a Senator's salary.

Q. What are the duties of the Secretary of War? I. O. A.

A. The duties of the Secretary of War include the supervision of the organization of the Army of the United States and our insular possessions, the handling of matters relative to appropriations needed for the different branches of the Army, the survey of conditions in our military forces and comparisons with the military forces of other countries and various similar duties.

Q. Why isn't the electoral college really a deliberative body under the Constitution? F. D. F.

A. Presidential electors are not ministerial or administrative officers; they do not perform a specific work in a way determined by higher official authority, and in a strictly legal sense the responsibility of their action rests on themselves. If they were required to meet in one body at the seat of government, and there in their own time and way proceed to choose a President, there would be good reason for saying that actual deliberation was intended. However, they are not given one single power or authority by virtue of which they could deliberate. In fact, it was proposed that the electors meet at the seat of the general government and all of the States except North Carolina voted against it.

Q. Is this country a national state? J. E. S.

A. Technically speaking this country is a state composed of states. State, in the sense of a government or nation, may correctly be called a national state. The term would apply to a government such as ours.

Q. Has the Federal Government the right to take land in a State for Federal purposes? A B. L.

A. Yes. Such a right in the Federal Government was questioned until 1875 when it was settled.

Q. Do cabinet officers have

mileage given them? R. G.

A. The Members of the Cabinet have salaries but no allowances.

Q. What was the Committee on Country Life? C. R.

A. This was a committee invited by President Roosevelt in August, 1908, to aid him in investigating the social, sanitary and economic conditions in American farms and which in its report, returned January 23, 1909, recommended the improvement of the highways, the establishment of a parcels post and postal savings banks, an investigation into the middleman system of handling farm products and the encouragement of a system of educational extension to rural communities.

Q. Is the Comptroller of Currency a member of the Federal Reserve Board? E. C.

A. The Secretary of the Treasury and Comptroller of the Currency are ex-officio members.

Q. Where are the sub-treasuries of the United States? K. G.

A. The Treasury Department says there are no sub-treasuries in the United States at the present time. They have been discontinued and the Federal Reserve Banks have taken over their functions.

Q. What Attorney General had the longest term of office? G. H. B.

A. William Wirt served as Attorney General longer than any other incumbent of the office, his service of 12 years, 1817-1829, overlapping the terms of Presidents Monroe and John Quincy Adams.

Q. How many Ambassadors and Ministers do we have? W. S. J.

A. The United States sends either Ambassadors or Ministers to 55 countries.

Q. Has a British Ambassador been handed his passport in this country in the last 50 years? D. H.

A. Sir Lionel Sackville-West was handed his passport in 1888. At that time Britain's representative was a Minister, not an Ambassador. The Minister wrote home that Cleveland's re-election would be advantageous to England, whereupon President Cleveland felt it necessary to hand Sir Lionel his passport.

Q. What is the difference between a Major General and a Governor General? C. M.

A. The rank of Major General is a military rank. The only superior ranks in the Army are Lieutenant General and General. Governor General is a title bestowed on a civilian connected with the State Department who is Governor of some possession of a country, e. g., the Governor General of the Philippines. This is not a military rank and is therefore not comparable with the rank of Major General.

Q. Who appointed Judge Taft to the Supreme Court? T. C. D.

A. William Howard Taft was appointed by President Harding and confirmed by the Senate as Chief Justice of the United States Supreme Court on June 30, 1921. He took the official oath July 7, and was installed October 3, 1921.

Q. How many Vice Presidents have died in office? H. J.

A. Seven men died while serving as Vice President: George Clinton, during Madison's first term; Elbridge Gerry during Madison's second term; William R. King, Vice President with Franklin Pierce; Henry Wilson, during Grant's second term; Thomas Hendricks in Cleveland's first term; Garret A. Hobart, in McKinley's first administration, and James B. Sherman in Taft's administration. John C. Calhoun resigned during his term as Vice President with Andrew Jackson to become a United States Senator.

Q. Has the head of the Government Printing Office always been called the Public Printer? N. V.

A. The Government Printing Office opened March 4, 1861. The man in charge was called the Superintendent of Public Printing. In 1867, the title was changed to Congressional Printer. In 1876, it was changed to Public Printer and has remained so until the present time.

Q. Has one a right to reproduce a Government bulletin? H. T. T.

A. Government bulletins are not copyrighted and may therefore be reproduced at will. It is not safe to take liberties with them, however, that might lead to misrepresentation. If a dealer reproduced a seed bulletin, for instance, and inserted his own advertisement in such a way as to give the impression that the Government indorsed him, he would be violating the law.

Q. How are positions in the Bureau of Engraving and Printing obtained? L. W.

A. Such positions are filled from the list of applicants who have taken Civil Service examinations.

Q. How many women are there in the employ of the Government? S. R. M.

A. The Civil Service League says that there are approximately 85,000.

Q. How fast can Treasury experts count bills? K. C. B.

A. They have counted approximately 40,000 new notes a day and 25,000 old ones.

Q. Did the late Secretary of State John Hay have a middle name? F. C. O.

A. The full name of the late John Hay was John Milton Hay. He was given the name Milton for his uncle, Milton Hay, who was at one time the law partner of Abraham Lincoln, at Springfield, Ill.

Q. What member of Roosevelt's Cabinet was continued in the Taft Cabinet? F. R. O.

A. George von L. Meyer, who was Postmaster General in Roosevelt's Cabinet, was made Secretary of the Navy by President Taft.

Q. When did W. J. Bryan cease to be Secretary of State? F. G. M.

A. Secretary Bryan left President Wilson's cabinet June 9, 1915.

Q. What would be the procedure in case of the impeachment of a cabinet official? L. V. F.

A. An impeachment proceeding may be set in motion in the House by charges made on the floor on the responsibility of a Member or Delegate; by charges preferred by a memorial, which usually is referred to a committee for examination; by a message from the President; by charges transmitted from the Legislature of a State or from a grand jury; or from facts developed and reported by an investigating committee of the House. After the impeachment has been voted by the House the trial of the case is before the Senate.

Q. If a cabinet member were to become President when Congress was not in session, would he call a session at once? F. L. C.

A. In accordance with the Act of Congress providing for the succession in such an event, if Congress were not in session, or would not be within 20 days, such a President would call an extra session.

Q. Has any President of the United States maintained an unbroken cabinet throughout his administration? G. E. F.

A. The only President of the United States whose administration had no cabinet changes was Zachary Taylor. The cabinet officials were: Secretary of State,

John M. Clayton; Secretary of the Treasury, Wm. M. Meredith; Secretary of War, G. W. Crawford; Secretary of the Navy, Wm. B. Preston; Secretary of the Interior, Thomas Ewing; Postmaster General, Jacob Collamer; Attorney General, Reverdy Johnson.

Q. What were the cabinet members paid when the Government was formed? J. S.

A. There were five Secretaries of Departments forming the President's Cabinet under George Washington. Of these the Secretary of State, Thomas Jefferson, received $2,500; the other Secretaries received $2,000.

Q. Who composed President Lincoln's Cabinet? W. F. V.

A. Secretary of State, William H. Seward; Secretary of the Treasury, Salmon P. Chase, William P. Fessendon, Hugh McCulloch; Secretary of War, Simon Cameron, Edwin M. Stanton; Secretary of Interior, Caleb B. Smith, John P. Usher; Secretary of Navy, Gideon Welles; Postmaster General, William Dennison; Attorney General, Edward Bates, Titian J. Coffey, Joseph Speed.

Q. Was former Secretary of War Weeks ever in the Navy? J. S.

A. Secretary Weeks was graduated at the United States Naval Academy in 1881, and for two years thereafter served as a midshipman in the United States Navy.

Q. Who was the first Secretary of Agriculture? E. A.

A. Jeremiah McLain Rusk, of Wisconsin, was the first Secretary of Agriculture under President Harrison in 1889-93.

Q. What are the duties of our United States Treasurer? S. H.

A. The Treasurer of the United States is charged with the receipt and disbursement of all public moneys that may be deposited in the Treasury at Washington and in the national bank depositories; is redemption agent for national bank notes, Federal reserve bank notes, and Federal reserve notes; is trustee for bonds held to secure national bank circulation and public deposits in national banks, and bonds held to secure postal savings in banks; is custodian of miscellaneous trust funds; is fiscal agent for paying interest on the public debt and for paying the land-purchase bonds of the Philippine Islands, principal and interest; is treasurer of the board of trustees of the Postal Saving System; and is ex-officio commissoner of the sinking fund of the District of Columbia.

Q. Who appoints the Chief Justice of the United States and for how long a term? H. V.

A. The Chief Justice of the United States Supreme Court is appointed for life (during good behavior) by the President of the United States.

Q. Does the Postmaster General come before or after the Secretary of the Navy in order of succession? T. S. D.

A. The order is: Secretary of State, Secretary of the Treasury, Secretary of War, Attorney General, Postmaster General, Secretary of the Navy, etc.

Q. Who appoints national bank examiners? J. J. L.

A. They are appointed by the Comptroller of the Treasury.

Q. What is the religious affiliation of each Justice of the Supreme Court? R. S. W.

A. Chief Justice Taft is a Unitarian; Associate Justices Van De Vanter, Sanford, Sutherland and Stone are Episcopalians; Oliver W. Holmes is a Congregationalist; Pierce Butler, a Roman Catholic; James McReynolds, a Methodist; and Louis Brandeis, a Jew.

Q. What are the sources of government income? Do the States contribute to it? A. K. W.

A. The principal sources of revenue of the United States are from excise duties on imports and exports, taxes upon liquors, tobacco, certain luxuries, such as theater admissions and income tax, which is at present by far the greatest source of revenue. No part of the taxes raised by the States is turned over to the Federal Government.

Q. Who was the first Postmaster-General of the United States? R. G.

A. Benjamin Franklin was the first head of the postal system of the United States. When he took over the affairs of his office, there were seventy-five post offices, with an aggregate postal revenue of $30,000 a year. Today we have more than 53,000 post offices and about 300,000 employees. The aggregate revenue collected and expended amounts to about $800,000,000 annually.

Q. Is the Federal Board of Mediation and Conciliation still in existence? When was it created? V. M.

A. The Board of Mediation and Conciliation was created by the Newlands Act of 1913, and ceased to exist at the close of the fiscal year, June 30, 1921.

Q. Who was the first Governor or Mayor of Georgetown, D. C.? J. H. B.

A. Georgetown was incorporated December 25, 1789, and by the act of incorporation, Robert Peter was made the first mayor.

Q. Have mayors of cities always been elected by popular vote in this country? C. H. A.

A. The first mayor to be elected by popular vote in the United States was Cornelius W. Laurence, who was chosen mayor of New York City in 1834.

Q. Who has the direction of foreign affairs of the United States? A. K.

A. The Secretary of State is charged under the direction of the President, with negotiation of whatever character relating to the foreign affairs of the United States.

Q. How long did Lyman J. Gage serve as Secretary of the Treasury? R. A. G.

A. Mr. Gage was appointed Secretary of the Treasury by President McKinley in March 1897, reappointed in March 1901, and served until March of the following year when he resigned.

Q. Does the Constitution provide for the forming of a Cabinet? F. L. B.

A. The Constitution of the United States made no provision for the creation of executive departments, vesting the sole executive power in the President. These departments were created by successive Acts of Congress, under authority conferred by the Constitution in Art. I, Sec. 8, par. 18. The Departments of State, then called Foreign Affairs, Treasury and War were established by the first session of the First Congress. The Secretaries of these together with the Attorney General, who was then a part of the judicial establishment, formed the first President's Cabinet.

Q. How many cabinet members were affected by the order of President Adams to move government headquarters from Philadelphia to Washington? J. M. T.

A. Six. There were 132 subordinates who moved with the Cabinet.

Q. What was the first city in the United States to have a commission form of government? E. E. I.

A. The commission form of government originated in Galveston, Texas, in 1901, and was an

emergency measure following the flood disaster of 1900.

Q. How was the American Commission on Conditions in Ireland selected? R. C. R.

A. This committee was elected from members of The Committee of One Hundred and Fifty on Conditions in Ireland. The editors of the New York Nation brought together the One Hundred and Fifty by extending invitations to every United States Senator, every Governor, every member of the higher clergy of the Protestant, Roman Catholic and Jewish denominations, and leading educators, journalists, editors, mayors and publicists. The personnel of the committee includes practically all of these varied interests.

Q. What is the commission form of municipal government? H. A.

A. The commission form of city government varies widely in the different States. The characteristic feature is the combining of all legislative and executive powers in a single body, usually consisting of from 3 to 7 members. These members are elected at large. The mayor, as a rule, is one of the commission but has no more power than his associates, though being the official head of the city. The adminstrative work of the commission is divided into departments, each headed by one commissioner. As a safeguard, the commission form of government almost invariably includes initiative, referendum, and recall.

Q. When was the Government Printing Office established? C. R. B.

A. It was established in 1861.

Q. What was meant by the dollar-a-year-man during the late war? Did anyone in the United States receive only a dollar a year? A. A. R.

A. A dollar-a-year-man is a man working for the Government for one dollar a year. It is against the policy of the United States Government to employ anyone without a salary. Therefore, these men who were giving their services to the United States charged the United States one dollar a year.

Q. How many employees are there in the Government Printing Office? R. J.

A. The average now is 4000. The peak was reached in 1918 when 5307 people were employed.

Q. Was Trenton, N. J., ever considered for the seat of the Federal Government? D. S. M.

A. At one time it was proposed that Congress should meet alternately in Trenton and Annapolis. On November 1, 1784, Congress met in Trenton and an ordinance was passed to lay out a Federal city upon either bank of the river and to provide suitable buildings at a cost of not over $100,000. Congress adjourned to New York, where it met the following January, and in the autumn of 1785 the South defeated the appropriation measure and thus the plan died to make Trenton the capital of the United States.

Q. Who was the first British cabinet officer to visit this country? A. J. B.

A. Arthur J. Balfour, at the time Foreign Secretary, visited the United States in 1917. He was the first member of the British Cabinet to come to this country during his term of office.

Q. What is meant by The White House Spokesman and who is he? A. B.

A. The White House Spokesman is a phrase coined by Washington newspapermen. It is not considered ethical to quote the President directly, so this expression is used, although in fact it is the President who speaks. He receives the newspapermen and answers questions orally that have been submitted to him previously in writing.

Q. What is the elastic clause in the Constitution? A. M. P.

A. Article I, Section 8, Paragraph 17, is referred to in this manner. It reads "To make all laws which shall be necessary and proper for carrying into execution the foregoing powers and all other powers vested by this constitution in the government of the United States or in any department or officer thereof."

Q. How many Secretaries of State were there in the Wilson administration? H. M. S.

A. There were three. William Jennings Bryan served from March 1913, until June 5, 1915. Robert Lansing held office from June 23, 1915, until February 13, 1920, and Bainbridge Colby from March 22, 1920 until March 4, 1921.

Q. How long have we had Government land surveys? W. C.

A. The first public surveys in the United States were made in Ohio under an ordinance of the Continental Congress passed May 20, 1785, which, slightly modified, became an act of Congress in 1796, and is still in force.

Q. What was the change in the political complexion of Congress made by the result of the election of 1910? H. J. H.

A. In the 61st Congress there were 61 Republicans and 32 Democrats in the Senate and 219 Republicans and 172 Democrats in the House. In the 62nd Congress, following the election of 1910, there were 51 Republicans and 41 Democrats in the Senate, and 228 Democrats, 161 Republicans and 1 Socialist in the House.

Q. Did the Congressional Committee that investigated the steel strike of 1919 recommend an anti-strike law? G. M. A.

A. The Senate Committee on Education and Labor in its report of its investigations of the steel strike of 1919 did not recommend anti-strike legislation, but did suggest the establishment of a board or commission which it believed would minimize the danger of strikes.

Q. Has a first term member ever been elected Speaker of the House after the original organization of that body? P. G.

A. Henry Clay was chosen Speaker of the House of Representatives upon entering that body in 1811 for his first term.

Q. Is it not true that the Senate originally refused to confirm the appointment of Chief Justice Taney? A. L.

A. Taney was first nominated by President Jackson as an associate justice of the Supreme Court and the Senate refused confirmation in 1835. The following year the complexion of the Senate had changed and Taney was named Chief Justice, to succeed John Marshall. That appointment was confirmed, although not without strong opposition from Henry Clay and others.

Q. Can a Senator be on two committees at once? J. L. F.

A. A Senator may serve on several committees at the same time and usually does so.

Q. If after a bill has passed both Houses of Congress and has gone to the President, Congress desires to recall it can this be done? F. L.

A. A bill which has reached the President may only be recalled by concurrent action of the two Houses. Should one of the Houses improperly request the return of a bill the President should refuse to return it. The form used is as follows: Resolved by the House of Representatives (the Senate concurring), That the President be requested to return to the House of Representatives the bill (H. R. ——) (title). After the concurrent resolution passes both houses it is

formally transmitted to the White House.

Q. Did Alexander Stephens go to Congress after the Civil War? M. T.

A. Alexander Stephens was Vice President of the Confederacy. After the close of the Civil War, he was elected to the United States Senate (1866) but was refused a seat. He served as a Member of the House of Representatives from 1873 until 1882.

Q. How much money does it take to run Congress? J. F. R.

A. For the fiscal year ending June 30, 1925, the Treasury paid for the United States Senate, $2,742,807.23; the House of Representatives, $6,815,913.63; and miscellaneous legislative expenses, $84,201.78.

Q. What is meant by gag rule in the House of Representatives? C. E.

A. This refers to the regulations for the limitation of debate.

Q. In reading the Congressional Record I notice that when some measures are voted upon the votes are given in the Record. At other times, the names and votes are not printed, and the Record merely says, "The bill was passed." What rule governs this? D. E. L.

A. When a record vote is taken on a measure, the names and votes of the members are shown in the Record; however, when the vote is not recorded this indicates that a viva voce (verbal) vote was taken.

Q. Do Members of Congress get any extra compensation for work on committees? H. B. K.

A. Members of Congress do not receive extra compensation for their committee work. Membership in a committee is sought for the influence it carries, opportunity for service, and its political importance.

Q. Do the majority of the Members of the Congress of the United States have to be of the same political party as the President? As a discussion on this point took place in Scotland, I trust you will print the answer so that I may send copies abroad. H. I.

A. It is not uncommon for the political majority in a Congress to be of a different party from the President. President Wilson, during his second administration, had a Congress of a different political complexion, as did President Cleveland.

Q. Who were the Presidents of the Continental Congress? J. H.

A. Peyton Randolph is the only man who seems to have served more than one term. The other Presidents were: Henry Middleton, John Hancock, Henry Laurena, John Jay, Samuel Huntington, Thomas McKean, John Hanson, Elias Boudinet, Thomas Mifflin, Richard H. Lee, Nathaniel Gorham, Arthur St. Clair, and Cyrus Griffin.

Q. Is it true that Congress once held sessions in a tavern? M. P. H.

A. In 1776-1777 the Continental Congress was held in a Baltimore tavern, it being feared that the British would capture Philadelphia where the Congress had been meeting.

Q. What was the ratio of representation in Congress 100 years ago and what is the present ratio? D. P. M.

A. In 1820 there was apportioned one Representative for every 40,000 people, the total number being 213. In 1920 there was one Representative for every 211,877, the number being 435.

Q. In what year did Congress impose a tariff on wire nails and how much was it? W. F. F.

A. The Tariff Act of 1890 pro-

vided for such a tariff. It amounts to 2, 2 1-2 or 4 cents per pound, according to length and gauge of wire from which they were made.

Q. How long does it take to call the roll of the House of Representatives? N. M.

A. The reading clerk of the House says that he can make a roll call in 25 minutes. There are 435 members of the House, and on each roll call these names have to be called three times, with clerks checking off on printed lists as the members answer to their names.

Q. Does the Constitution of the United States provide for calling a session of Congress in case of impeachment of a President? S. M. M.

A. There is no special provision in the Constitution of the United States for calling a session of Congress for the purpose of impeaching the President. Section 3 of Article II, provides that the President may "on extraordinary occasions convene both houses or either of them, and in case of disagreement between them with respect to the time of adjournment, he may adjourn them until such time as he shall think proper."

Q. Was the Bureau of the Budget authorized by Congress, or did the President establish it? J. F. O.

A. The Bureau of the Budget was established by an Act of Congress, passed June 10, 1921, under President Harding. A budget bill was projected during the administration of President Taft, passed in the 66th Congress, and vetoed by President Wilson. The act makes the President practically the head of the budget system since he appoints both the director and assistant director of the bureau, and makes all appointments carrying salaries exceeding $5,000.

Q. When was pairing first resorted to in Congress? E. M.

A. The first known instance of pairing in the Congress of the United States was in 1840. John Quincy Adams prepared a resolution declaring that it violated the Constitution, an express rule of the House, and the duties of both parties. The resolution was never voted upon, and the practise became very common.

Q. Must a Member of the House of Representatives be a resident of the district which he represents? L. L. R.

A. The Constitution provides that no person shall be a representative who shall not, when elected, be an inhabitant of that State in which he shall be chosen, but makes no requirement as to residence within the district.

Q. Is there a place that people send money because they have at some time cheated the Government? J. G.

A. The Conscience Fund is a popular name referring to moneys received by persons unknown at the Treasury Department. This money is received from persons who have cheated the Government. Annually this amounts to a few thousand dollars. This money is used for miscellaneous expenses.

Q. Has the United States a business representative in India? M. C.

A. There is a United States Trade Commissioner for India in Calcutta.

Q. What is a civil list? F. M. R.

A. In this country the civil list signifies (1) a list of the entire expenses of the government; (2) the revenue appropriated to support civil government; (3) the officers of the civil government who are paid from the public treasury.

Q. What is the National Municipal League? C. M. K.

A. The National Municipal League is an interstate organization made up of individual members and affiliated with state and local associations for the purpose of promoting better government in cities. It was founded in 1894 in New York and is non-partisan in character.

Q. When were Populists first elected to Congress? W. E. K.

A. The first Populists were elected to the 52nd Congress, 1891-3, when two Populists captured seats in the Senate and 9 made their political bows in the House.

Q. Please give date and place of Senator Gillett's birth and name of his father. A. G.

A. Senator Frederick H. Gillett was born at Westfield, Massachusetts, on October 16th, 1851. His father was Edward Bates Gillett.

Q. What Vice Presidents besides Coolidge came from Massachusetts? A. G. U.

A. John Adams, Vice President with George Washington; Elbridge Gerry, with James Monroe; and William A. Wheeler, with Rutherford B. Hayes, were the other Massachusetts men who became Vice President.

Q. How can one tell when the House of Representatives is sitting as a Committee of the Whole House on the State of the Union? C. E. P.

A. When the mace is upon the pedestal near the desk of the Speaker of the House, the House is sitting as the House of Representatives. When the mace is down, the House is sitting as a Committee.

Q. Which is the correct designation when applied to the office of a diplomatic representative of this country, American Embassy, or Embassy of the United States? M. A.

A. In June, 1904, an order was issued by the then Secretary of State John Hay that on all new record-books, seals, etc., used by representatives of the United States in foreign countries, there should appear the words American Embassy, American Legation, etc., in place of Embassy of the United States, Legation of the United States, etc., previously employed.

Q. What were our State constitutions modeled after? N. N.

A. State constitutions reveal the continuity in the development of American political institutions. They have been called by Bryce "the oldest things in the political history of America, for they are the continuations and representations of the colonial charters." And again, "the first State constitutions were little more than the pre-existing colonial constitutions adapted to the changed circumstances."

Q. Who was the first Treasurer of the States? C. D. J.

A. Michael Hillegas was the first Treasurer of the United Colonies. Alexander Hamilton was the first Secretary of the Treasury under the Constitution.

Q. How many medals and degrees has Secretary of Commerce Hoover? H. R.

A. A complete list has not been compiled. He has degrees from about 30 universities. Many medals and diplomas have been presented to Mr. Hoover, while streets, avenues, highways, and squares have been named for him.

Q. Has Vice President Dawes any business interests other than banking? R. B.

A. He is interested in the gas business in Seattle, Wash., Jacksonville, Fla., Mount Clemens, Mich., Staten Island, N. Y., Little Rock, Ark., Mobile, Ala. and several other places.

IV

ANIMALS

Q. When was the first mule bred in the United States? T. F.

A. The Bureau of Animal Industry says that the first mule bred in this country of which it has a record is one bred by George Washington. The first jack brought to this country was presented to him by the King of Spain.

Q. Is there an animal that never drinks water? C. C. H.

A. It is said that the gemsbok, a large South African antelope, never drinks water, the moisture which it requires being obtained from the succulent bulbous plants on which it feeds.

Q. Does the hippopotamus sweat blood? L. M.

A. The skin of the hippopotamus contains a great quantity of an oily substance which exudes from the pores, and under excitement this flows out copiously and is tinctured with blood, producing the bloody sweat for which the beast is famous.

Q. Are all white Persian cats deaf? O. W. H.

A. All white cats are deaf provided they have been bred from white stock. This is also true of many other white animals and albinos.

Q. What animal eats bees? J. E.

A. The Biological Survey says that skunks have the reputation of eating yellow jackets and bumble bees. It is generally supposed that the juicy larvae of these is most appreciated but the adults are also eaten and probably the honey stored by bumblebees. The skunk approaches the yellow packets' nest cautiously and scratches on the outside of it until its occupants rush from the entrance to repel the intruder. The skunk shows much skill in capturing the insects and in dislodging them from his long hair where many cling. He pays little attention to their stings.

Q. Do black horses feel the heat more than white ones? T. B.

A. Black horses are affected by heat more than horses of other colors.

Q. Will Strongheart work with anyone except his master? W. B.

A. This super-intelligent police dog is a one man dog and performs only for his master.

Q. Will hogs eat snakes? D. H.

A. The Bureau of Animal Industry says that hogs do consume snakes; in fact, certain areas which have been greatly infested with snakes have been fenced in and swine kept therein to eradicate these reptiles.

Q. What parts of the animal are sweetbreads? K. L. L.

A. Sweetbreads is a popular term applied to certain glands of the calves used for food; these are usually the pancreas or the stomach sweetbread and the thymus or the breast sweetbread.

Q. How are horses classed for

color? M. R.

A. The stud books recognize the following colors in horses: gray, roan, dun, bay, brown, black, and chestnut. Usually the variations of these colors are not recorded.

Q. Which was the first animal to be domesticated by man? O. E.

A. In the earliest human graves, archeologists have discovered human bones, dog bones and a spear buried together, evidently making provision for the resumption of hunting in an after life. The auroch, an animal much resembling the American buffalo, was the original of the present domesticated cattle, the longhorns by way of Spain, Mexico, and Texas and the shorthorns by way of Northern Europe, New England, and Virginia.

Q. Has a lion ever been crossed with a tiger? T. C. L.

A. The London Zoo has a tigon, an animal which had a lioness for a mother and a tiger for a father. It was bred and presented to the Zoo by the Maharajah of Nawanagar.

Q. Have wolves ever been used as sled teams instead of dogs? D. I. S.

A. An Ontario trapper, Joe LaFlamme, is reported to have a team of timber wolves which he has broken and trained to draw a sled.

Q. Do animals other than dogs suffer from rabies? H. G .

A. Cases of rabies have been identified among cats, cattle, swine, and horses.

Q. Is it cruel to keep a dog muzzled? A. D.

A. The Bureau of Animal Industry says that it is no more severe to muzzle a dog than to use a horse with a steel bit in its mouth. Muzzling dogs through the summer causes an immediate decline in the number of cases of rabies.

Q. When were horses first brought to America? J. D. F.

A. The earliest horses which were the primitive ancestors of the American horse, were brought over by Cortez for the campaign in his conquest of Mexico, begun in 1519. The horse-breeding enterprises of the twentieth century date back to the cavalry mounts used by Cortez.

Q. Why do cows sweat only on their noses? C. C. L.

A. The Bureau of Dairying says it is because the nose is the only place having sweat glands.

Q. Can a cat see in the dark? A. M. P.

A. A cat can see better in the dusk than a human being can because the cat's eyes are sensitive to ultra-violet rays. Its pupils are capable of greater expansion than those of man or of almost any other animal, thus admitting more light. The cat uses its whiskers as feelers in the dark. Its surefootedness is a great help to it. The belief that it can see by night as well as by day is, however, erroneous.

Q. Is it true that every nine years there is a rabbit famine? M. C.

A. The Biological Survey says that the statement that there is a scarcity of rabbits every nine years is more or less true. Rabbits become very numerous and periodically die off, although this does not occur regularly every nine years. It is thought that this is caused by some disease spreading among the rabbits.

Q. What are the duties of the Bureau of Animal Industry? H. F. R.

A. It carries on research on animal diseases, including chemical, bacteriological and zoological investigations, investigations in dairying, animal breeding and feeding.

Q. What animal makes the most noise when bellowing? D. M.

A. The National Zoological Park says that there is no authentic information as to which animal makes the most noise, but that the following animals are generally conceded to be among the greatest noise producers: lion, bull elk, sea lion, wolf and elephant.

Q. Are animals ever anesthetized and operated upon? T. W.

A. Such operations are performed with increasing frequency. In the animal hospital at the University of Pennsylvania, the first operating table ever built for large animals has been installed.

Q. Is the greyhound the fleetest dog? J. J. S.

A. At a recent dog carnival it was shown that the whippet—a cross between the greyhound and the terrier—is the fastest dog in existence. The world's record for speed made by a whippet is 200 yards in 11¾ seconds.

Q. When were horse shoes first used? G. W. R.

A. It is known that the ancients had certain devices for covering the feet of horses but the practice of nailing iron plates or rim-shoes to the hoofs does not appear to have been introduced earlier than the second century, B. C., and was not commonly known until the close of the fifth century, A. D., or in regular use until the Middle Ages.

Q. Which is the easier to train, a wild tiger or lion, or one born in capivity? G. A. B.

A. Menagerie men and animal trainers say that a jungle-born tiger or lion, if caught young, is easier to train than one born in captivity.

Q. What breed of cattle holds the milk producing record and what breed the butterfat record? G. L. D.

A. Both the butterfat record and the milk producing record have been held in the United States for the past five years by the Holstein Friesian breed.

Q. Will rabbits grow faster in light colored cages than in dark ones? P. J.

A. Popular Science says that in light-colored cages animals grow rapidly, while dark paint retards their growth.

Q. Are pigs naturally dirty animals? M. M. O.

A. Pigs are the cleanest of all farm animals if they are allowed to be so. Pigs will not sleep in a filthy bed unless compelled to. They should not be made to wallow in dirty holes. Germs of hog cholera may remain alive and active for six months in such places. If the pigs are to have a wallow it should be constructed of concrete, and should be drained and cleaned frequently.

Q. Do any animals or birds live to be 100? H. D.

A. The elephant lives to be 150 or 200 years old; crocodile, 100; and tortoise, over a hundred. The eagle, crow, raven and swan are birds which sometimes live to be a hundred or more. Cockatoos are also noted for their great age.

Q. Should alfalfa hay that has been frozen be fed to stock? E. H. A.

A. It should not. The last cutting is made usually in August, thus avoiding any danger of frost or mould.

Q. What is a leopard seal? M. D. N.

A. It is the Pacific Coast variety of the common or harbor seal which is more often spotted than is that of the Atlantic.

Q. How much water should cattle be given? S. N.

A. The cow giving 20 pounds

of milk daily requires about seven gallons of water. Since water can not be absorbed by the system until it is raised to body temperature, about 99 degrees, the water for cows should be moderately warm.

Q. Describe a zobo. A. G. B.

A. This animal is a hybrid between the yak and the humped cattle of India. It is common in the western part of the Himalaya and is used as a beast of burden, as well as for its milk and its flesh. It resembles the English ox.

Q. How long a leap does the kangaroo make? E. S. T.

A. When standing erect, the giant kangaroo is nearly as tall as a man, and in full flight makes bounds of from 10 to 12 feet.

Q. How does tuberculosis of cattle affect the cattle indusrty? T. B. N.

A. Losses from tuberculosis is one of the heaviest taxes imposed upon the livestock industry of today. An annual loss of $40,000,000 is estimated.

Q. Are all animals natural swimmers? F. F.

A. According to the best authorities, all animals excepting man, monkeys and, perhaps, the three-toed sloth, either swim naturally or go through the motions of swimming when suddenly immersed in water. There are, however, several animals that, although they swim naturally, drown as they swim. This is the case with rabbits, mice, moles, and the smaller cats, drowning being the result of the fur becoming saturated.

Q. How do cats make a purring sound? A. L. H.

A. This sound is made by throwing the vocal cords into vibration measured and regulated by the respiration, and this vibration is strong enough to make the whole larynx tremble so that it may be felt or seen from the outside. Purring is highly characteristic of the cat tribe, though probably not confined to it.

Q. Can a monkey be taught to read? N. S. D.

A. Monkeys have keen sense of sight and discrimination. They can be trained to remain on a perch when shown a card bearing the word no, and to come down when shown one saying yes. This is not reading, however, in the usual sense of the word.

Q. When there are warts on cottontail rabbits, should the rabbits be eaten? F. R. S.

A. The appearance of warts on cottontail rabbits is an evidence that the animals are not in good condition, and therefore not fit for human consumption.

Q. Is the ordinary house cat merely a domesticated species of wildcat? F. F.

A. The house cat is a descendant of the North African gloved or Caffre cat, which was domesticated by the Egyptians before the time of the oldest monuments of their civilization.

Q. Do some animals hibernate in summer? J. V. K.

A. The word hibernate carries the idea of winter. Such tropical creatures as alligators, snakes and certain mammals and insects undergo a period of torpor during the hot, dry season when food is scarce and vegetation is taking a rest. This is known as estivation.

Q. Of what disease do most of the animals in the Zoo die? H. J. F.

A. Records of the National Zoological Park for the past eight years show that enteritis is the most common cause of death. Enteritis is the medical term for inflammation of the intestines, and covers, of course, specific troubles of very different origins.

Q. Do cats, monkeys and other animals shed tears or is it only the human beings who can do so? V. L. L.

A. Cats, monkeys, and other animals do have tear ducts for the purpose of protecting their eyes the same as humans.

Q. How long do camels go without water? L. J.

A. When crossing the desert camels are expected to carry their loads 25 miles a day for three days without drink. The fleeter breeds carry their rider and a bag of water 50 miles a day for five days without drinking.

Q. How many fur-bearing animals are killed for their skins in the United States yearly? J. T.

A. About 30,000,000 are killed each year to supply the demand for furs. It is estimated that 20,000,000 of these consist of muskrat, opossum, mole, lamb, kid, marmot, and squirrel.

Q. Does the male gorilla sleep on the ground? H. H.

A. He generally sleeps at the foot of a tree to guard his family against the leopard. This beast is practically the only foe the gorilla fears.

Q. Where do Angora cats come from? E. J. G.

A. Angora cats are originally supposed to have come from Angora, a province in Asia Minor, though some authorities maintain that the original home of these long-haired silky cats was Persia and Arabia.

Q. What are young seals called? F. W.

A. The young ones are called pups, despite the fact that the adult males are called bulls and the females, cows.

Q. Do foxes ever band together like wolves? W. I.

A. Foxes never hunt in packs.

Q. How tall is the tallest giraffe? W. J. L.

A. Specimens of the giraffe have been noted the heads of which were 18 feet from the ground.

Q. What kind of pet cats grow to be largest? L. McN.

A. Angoras are the largest.

Q. What food should be fed to squirrels?

A. Their food in the wild state includes nuts and other seeds, buds, mushrooms, insects, nestling birds, and fleshy fruits. Caged animals should be given regularly hickory nuts or butter nuts in addition to any of these.

Q. Why do cat's eyes shine at night? M. P.

A. The caudal area around the optic nerve has a metallic luster. This portion is called the tapetum. It causes the shining appearance of the cat's eyes in the dark.

Q. Why can camels go so long without water? B. N. G.

A. In their paunches are numerous side-pockets with narrow openings which can be closed by circular muscles and these become filled with fluid. When needed, this is absorbed by the system.

Q. How many gorillas are there in this country? C. G. H.

A. The National Zoological Park says that at the present time there is only one gorilla in the United States. It was housed for several years in the New York Zoological Park, but has recently been transferred to Jacksonville, Fla.

Q. Where is the largest live stock market? W. C. M.

A. The Union Stock Yards of Chicago occupying its present site since 1865 is the largest live stock market in the world. Its yard area of 500 acres contains approximately 13,000 pens, which have a daily capacity for 75,000 cattle, 150,000 sheep, 300,000 hogs and 6,000 horses.

Q. How many kinds of wolves are there in this country? E. N.

A. Although systematic naturalists have named numerous species and subspecies of wolves, there are practically only two very distinct kinds in America — the large gray timber wolf and the prairie wolf or coyote.

Q. What is the best bait to trap mink? I. M. P.

A. A very successful bait is fresh fish, the trap being scented with muskrat musk. The most important thing is for the trapper to leave no scent. The bait should be handled with gloves that have been dipped in paraffine.

Q. What is a cross fox? A. G.

A. A fox marked with a dark line along the spine and another over the shoulders is called a cross fox, and fine specimens are worth an extra price.

Q. Why is the lion sometimes referred to as the king of beasts? E. B.

A. The Department of Agriculture says that this title was given to the lion because its bravery is unsurpassed and because there is no other animal that can successfully meet it in combat.

Q. What is a Kodiak bear? P. J. K.

A. The Kodiak bear attains the largest size of all known bears, and is the most bulky of carnivores, specimens not regarded as the heaviest having weighed 1200 pounds. Many, however, are comparatively small. This huge species was discovered to science about 1895, on Kodiak Island, Alaska, where it is said to be numerous, but hard to get.

Q. Are fowls the only animals that have gizzards? A. M. P.

A. Various fishes, reptiles, crustaceans, insects and other invertebrates also have gizzards.

Q. How much do foxes for breeding purposes cost? R. P. McC.

A. The prices of breeding stock range from $500 to $2,000 a pair, the price being dependent upon the quality of the pelt. Breeding stock has sold as high as $34,000 a pair.

Q. What animals beside the bear hibernate in winter? A. H.

A. Among the mammals which hibernate are the dormouse, badger, bat and hamster. A number are incomplete hibernators, as the prairie dog and squirrel.

Q. How long have Guernsey cattle been imported into the United States? H. H.

A. They were first brought over in the early 80's. Now about 800 head are brought in each year.

Q. How long does a cow give milk? T. H.

A. Cows have been known to give milk, with the usual freshening, from the age of 2 to 18. The average time for a cow to be in a dairy herd, however, is from 4 to 6 years.

Q. Do skunks kill poultry? S. L.

A. While a skunk may accidentally kill a chicken and thus acquire a taste for the flesh of fowl, its natural food does not include this item. Usually insects of various kinds are the main article of food and these are species that are injurious to plant life.

Q. How long have men ridden horses? H. G. F.

A. While no date is recorded, it is probable that men have ridden horseback for about 3000 years.

Q. Does St. Johns' weed poison all cows that eat it? A. R. U.

A. The Department of Agriculture says that it is a peculiarity of this weed that it affects only white-haired animals. A red cow would be immune to the poison unless it happened to have a white nose.

Q. Does a porcupine shoot its quills at its enemy? F. F.

A. The quills of a porcupine are quite loosely attached to the body, and when the animal slaps with its tail (its usual mode of defense) some quills may be flirted quite a distance. It is this fact, no doubt, that is the foundation for the popular notion that the porcupine shoots its quills at an enemy.

Q. How long do guinea pigs live? H. B. C.

A. The average life of the guinea pig is between 4 and 5 years and the maximum 7 years.

Q. Can the age of sheep be told by the teeth? L. T.

A. The approximate age can be told by the teeth. All the baby teeth are present soon after the birth of a lamb. The two permanent front teeth appear when the lamb is 12 to 14 months old. The next pair, one on each side of the front ones, comes at about 22 to 24 months. The third pair appears a year later, and at the end of the fourth year the sheep has a full mouth with all permanent teeth present. As the animal grows old the teeth spread and show wear, and finally come out.

Q. Is it cruel to leave a horse without exercise in a stall for a while? G. A. B.

A. The Humane Society says that keeping a horse in a stall for any great length of time is considered an unnecessary cruelty to animals, and is held a violation of the law.

Q. What is a cow's cud? G. B.

A. The cud is the portion of food which is brought into the mouth from the cow's first stomach to be chewed a second time.

Q. How can skunks be driven from under a porch? W. H. B.

A. The Biological Survey suggests that you try smoking out the skunks under your house by closing up all openings with the exception of one. At this place a wood fire should be built. In the event that this does not prove of value, you should try trapping.

Q. Do German police dogs grow cross as they get old? G. W.

A. German police dogs, while they to not seem demonstratively affectionate, are staunch and loyal and conduct themselves with quiet dignity which is equaled by few other breeds. Many dogs in old age become snappy and cross, but police dogs do not have this tendency any more than dogs of other breeds.

Q. Why do horses eat bark off the trees? B. R.

A. When either horses or cows eat bark, it is usually a sign of the deficiency of mineral matter in their diets. It also has been found to be due to bad teeth.

Q. What is the greatest sheep center in the United States? W. D.

A. Idaho and Wyoming are the greatest centers for range sheep, while Ohio is the greatest farm sheep center in this country.

Q. How many of the horses and mules sent to Europe during the war were killed? T. S.

A. It has been estimated that there were 243,135 horses and mules attached to the American Expeditionary Forces, approximately 68,682 of which perished in the service.

Q. What domestic animals do reindeer most resemble in habits and disposition? S. T. K.

A. It may be said that they have some of the characteristics of sheep, cattle, and horses. They flock together like sheep, but graze more like cattle; and in intelligence and activity they more nearly resemble the horse. Reindeer are much more intelligent than cattle, but not so intelligent as horses.

Q. Can the richness of milk be increased by giving cows richer feed? A. H. N.

A. The Department of Agriculture says that generally speaking the richness of milk can not be increased by feeding a cow on rich feed.

Q. How much does a baby elephant weigh? G. T. S.

A. The National Zoological Park says that the approximate weight of an elephant at birth is 160 to 200 pounds.

Q. Will you please tell me why my fox terrier howls when he hears music? L. T.

A. The Biological Survey says that dogs react to music and that some tunes make them howl loudly. It can not account for this in any other way except by assuming that it is the dog's instinct which he has inherited from his undomesticated ancestors. In other words it is the call of the wild.

Q. What should be done for a dog if a snake bites it? H. J.

A. The Public Health Service says that a solution of permanganate of potash should be applied to the wound as soon as possible. Painting a freshly enlarged wound with iodine may also serve the purpose. In any case tie a bandage tightly around the limb between the bite and the body and consult a veterinarian as soon as possible.

Q. Does a deer lose its horns every year? J. A. H.

A. A deer sheds the outer portions of its horns annually. When this horn falls off, a soft velvet-like substance remains, which gradually hardens into horn. This shedding takes place during the breeding season. Ordinarily, one prong develops each year, but at times some animals will develop more.

Q. What kind of an animal is the straw cat? T. D. L.

A. This animal is also known as the pampas cat, and the grass cat. It is a yellowish-gray wild cat, with straw-colored bands running obliquely backwards across the flanks and horizontally on the legs and chest.

Q. Where do elephants go to die? M. A. S.

A. This is a question which has puzzled scientists for years. In the countries where they live in a wild state, elephants which have died a natural death are never found.

Q. Describe Angora and Persian cats. McM.

A. The Angora cat came probably from Angora and has a small head and rather large tufted ears; the long silky hair should hang in tufts and clusters, shortening towards the end of the tail. The colors are varied, but black and dark slate-colored ones with orange eyes, or blues and whites with light eyes, are most valued. The Persian is also long-haired, but is larger in body and the fur is coarser, and increases towards the end of the long tail; the color may be almost any, but deep black with orange eyes is preferred; blue is the next best color.

Q. Is there a white elephant in this country? E. L.

A. There are no white or albino elephants in America now. Some 40 years ago, a circus exhibited a pale gray one. A white elephant has just been put on exhibition in the London Zoo. It came from Burma.

Q. I have caught a squirrel which is pure white. Is it a freak or is there a distinct breed of white squirrels? J. V. C.

A. The Biological Survey says that the squirrel is a freak of nature, and is what is commonly known as an albino. Albinos appear in all forms of animal life but are very rare.

Q. Are cows that are good milkers also good beef cattle?

A. The milking tendency in cattle is associated with a conformation of body which prevents the animals from yielding the greatest quantity and the best quality of beef.

Q. What is a gnu? D. G.

A. This animal, found in the heart of Africa, has a head like an ox, the body and flowing tail of a horse, and the limbs of an antelope.

Q. What is the cross between the buffalo and the cow called? T. E. G.

A. The animal is called the cattelo. Most ranchers prefer keeping the strains pure.

Q. What and how much does an elephant eat in a day? P. D.

A. The National Zoological Park says that a large elephant will consume from 100 to 125 pounds of hay per day. Besides this, bran mash is also given.

Q. At what age does a draft horse attain his greatest strength? A. H. R.

A. Horses suitable for heavy harness do not attain maturity and maximum strength until they reach the age of five or six years, and from seven to ten years the horse is at his best.

Q. Can woodchucks be kept for pets? O. H.

A. The Biological Survey says woodchucks make very interesting pets and are easily cared for. They should be given roomy quarters with a den and material for a nest in which they can retire in the fall for hibernation. They eat a great variety of green food.

Q. Where is the largest buffalo herd in the world and in the United States? A. R. N.

A. The largest buffalo herd in the world is found in Wainwright, Alberta, Canada. The largest government herd is located in Yellowstone National Park and the largest privately owned herd is found at Pierre, South Dakota.

Q. What kind of domestic animal makes the most efficient use of food? R. O. A

A. The Bureau of Animal Industry says that considering the amount of human food produced by the animal from the feed raised on an acre of land, the dairy cow leads all other animals. Next to the dairy cow comes the hog.

Q. Can guinea pigs be eaten? E. T. McK.

A. Guinea pigs can be eaten. However, they are not generally disposed of in this manner.

Q. How do taxidermists remove the flesh from tiny animals when the skeleton is wanted? T. W.

A. Usually ants are allowed to eat away the flesh.

Q. How can you tell the age of an alligator? N. M.

A. The age of an alligator can only be determined by one who has experience with these reptiles. Alligators grow very slowly and it is estimated that at fifteen years of age they are only two feet long; therefore, a twelve footer may be reasonably supposed to be 75 years of age. The rate of growth varies with animals in their wild state and those kept in captivity, and it is also governed by the amount as well as the type of food given.

Q. About how many seals are caught around Newfoundland? T. G.

A. Final figures on the Newfoundland sealing season just concluded, show a total catch of 205,548 pelts, the largest number in 14 years. The steamer Beothic, formerly the Lake Como, set the season's record for a single vessel, with 48,000 pelts.

Q. What is the best weight of

hogs for market? M. F. H.

A. Two hundred and fifty pounds is considered the most desirable weight for butchering and packing. Bacon hogs are selected light hogs, weighing from 155 to 195 pounds. Sausages are made from hogs listed at market as boars.

Q. Does a pig have sweat glands? If so, where are they? D. P. A.

A. The sweating of the pig is confined to the snout and the sweat glands of the pig are accordingly located there.

Q. My dog feeds on grass. Does this indicate a deficiency in his diet? R. S. M.

A. Green grass has been called the dog's medicine chest and he should have constant access to it.

Q. How many dogs are there in the United States? N. T.

A. There are about 7,000,000.

Q. How much weight does a hog gain each day? E. G.

A. A gain of 1 pound a day is considered over the average for a normal hog. Many of the hogs on government farms have gained between a pound and a pound and a quarter a day.

Q. Please tell me how to rid a dwelling house of bats? B. W. B.

A. First close all openings where the bats usually enter. Then set several small steel traps such as are used in catching rats, baiting them with any of the baits used for rats. If they infest the building to any great extent, it is suggested that you burn a sulphur candle or fumigate with carbon disulphid.

Q. Can you tell me something of the history of the guinea pig? H. B. G.

A. When the Spaniards first invaded the Andean region of South America, the animal was found domesticated and living in large numbers in the houses of the Indians, by whom it was used for food. The cavy was carried to Europe by Dutch traders during the sixteenth century. Since then it has been kept in the Old World and in North America chiefly as a pet, and until recently has been generally regarded as an animal of little practical utility. The name pig is readily suggested by its form, but the origin of guinea as applied to it is unknown but may be a corruption of Guiana pig.

Q. Is there any place in America where wild horses can be found? W. N.

A. Wild horses are still to be found, notably in Colorado, Nevada, Oregon, Idaho, New Mexico and Arizona.

Q. How much salt should a cow be given? P. N.

A. Salt is required by all animals. The dairy cow requires an ounce or more daily. It is best to give a small quantity in the feed and place rock salt where the cow can lick it at will.

Q. What are the names of some of the famous war horses? H. T.

A. Washington's favorite white charger was known as Lexington. He also rode Braddock, Greenway, Fairfax, Dolly, and Nelson on frequent occasions. Napoleon's favorite was Marengo. Grant had three favorite war horses, Egypt, Cincinnati, and Jeff Davis. Sherman rode Lexington and Sam; Sheridan, Winchester, previously known as Rienzi; and Lee, Traveller.

Q. When may a horse be said to be a thoroughbred? G. W. F.

A. The requirements of an American thoroughbred horse are that the pedigree contains five uncontaminated crosses, but the average pedigree traces through 16 to 18 crosses, some having as many as 25.

V

ART

Q. What is said to be the most perfect hand ever painted? S. D.

A. The right hand of Mona Lisa, painted by Leonardo da Vinci.

Q. What great painter obtained inspiration from a bunch of grapes? A. T. S.

A. It is said that Titian always kept a cluster of grapes hanging in his studio as an example of beauty of form and line.

Q. Who was the first American sculptor employed to work at the Capitol at Washington? V. W. K.

A. Horatio Greenough. In 1832 Congress commissioned him to execute a statue of Washington.

Q. In City Hall Park, New York, there is a statue of Nathan Hale. Does it really resemble the patriot? D. A. E.

A. Frederick Macmonnies, who designed this statue had no likeness of Hale from which to work. It is therefore an idealized conception. The sculptor is quoted as saying: "A statue in bronze or stone should never be a photographic likeness but should be so conceived as an ideal that the figure should symbolize the life work of the subject."

Q. What is the most ancient example of independent sculpture now extant? A. D. C.

A. The Sphinx carved by the Egyptians probably possesses this distinction.

Q. How can forgeries of pictures be detected? N. A. M.

A. Photography reveals many differences of brushwork and medium between old and modern paintings. Radiography has also been used with success.

Q. Please tell something about favrile mosaic pictures, and name one. M. P. M.

A. Favrile glass is a variety of irridescent enameled glass so-called by Louis Tiffany, its inventor, in 1894. As beautiful an example of favrile glass as can be found is the screen in the lobby of the building occupied by the Curtis Publishing Company, Independence Square, Philadelphia. Maxfield Parrish executed the design. The Tiffany Studios executed the screen.

Q. Where is the Statue of Hermes by Praxiteles? A. B. C.

A. Hermes, one of the masterpieces of Praxiteles, the ancient Greek sculptor, was found May 8, 1877, at Olympia. It is now preserved in the museum there. The figure of the youthful god is shown as the protector of his baby brother, Dionysus. The statue was made about 250 B. C.

Q. How can I liven up and preserve an old oil painting which is beginning to crack? R. M.

A. A member of the staff at the Corcoran Art Gallery charged with the preservation of the pictures says that it is a most delicate process to endeavor to reconstruct old paintings which have either through neglect or through the use of inferior paint or oils become

cracked. The painting should be kept as free as possible from excessive heat, cold, or draughts. It may be wiped over with pure olive oil applied with a very soft cloth or chamois.

Q. When Vermeer's Lady Writing was sold in 1696, how much money was paid for the painting? A. B. R.

A. At the auction to which you refer, this painting brought the equivalent of about $6.00 in our money. One of his works has since sold for $200,000.

Q. What city has the greatest number of art treasures? L. H. F.

A. The Geographic News Bulletin says that Florence, Italy, probably contains more works of art than any other similar area. Michelangelo, Raphael, Leonardo da Vinci, Giotto, Luca della Robia, Donatello. Fra Filippo Lippi, Botticelli and Andrea del Sarto all worked in Florence, many of them being native Florentines and the city has many examples of their paintings and statues.

Q. Who was the first woman to receive a Federal Art Commission? H. F.

A. The first award was given to the young Washington sculptor, Vinnie Ream. Her statue of Lincoln, in the rotunda of the United States Capitol, was executed under this commission.

Q. Who was the model for The Age of Innocence? B. A.

A. The picture which has come to be so known by this name was a study of the grandniece of Reynolds.

Q. How tall is the statue of the Venus of Milo? C. H.

A. The height of the Venus of Milo is 2 metres 38 millimetres. or a trifle over 6 feet 3 inches.

Q. Who did the actual cutting of the marble statue of Lincoln in the Lincoln Memorial? A. C. D.

A. Six brothers named Piccirilli, a family of Italian sculptors. French went over their work, pointed up the features and attended to other details.

Q. Why has the Venus de Milo no arms? V. W.

A. It is generally believed by art authorities that Venus de Milo had arms. These were broken off before the statue was discovered. after having been buried for a great period of time. The position of the arms has been the subject of endless discussion.

Q. Is the Victory of Samothrace in the Louvre the original statue or a reproduction? J. E. T.

A. The Victory of Samothrace can be dated at about the end of the fourth century. It was found in 1863 broken into a multitude of fragments which have been carefully united. "There are," says F. B. Tarbell, "no modern pieces except in the wings. The statue stood on a pedestal having the form of a ship's prow, the principal parts of which were found by an Austrian expedition to Samothrace in 1875. These fragments were subsequently conveyed to the Louvre, and the Victory now stands on her original pedestal."

Q. How much did the sale of Sorolla's first painting bring the artist? G. R.

A. The price of the first painting which he sold, a landscape, was $1.40.

Q. Please tell me the meaning of Burne-Jones' picture, The Golden Stair. I. N. D.

A. The Golden Stairway was originally named The King's Wedding, then Music on the Stairs. It was designed in 1872, begun in 1876, and finished in 1880. From the fact that the canvas was first called The King's Wedding, it is safe to assume that the picture simply depicts the musicians assembling for the wedding of their King.

Q. I have seen Sorollas' painting Beaching the Boat, but I do not understand it. Please explain the process. T. S. T.

A. The Valencian people have a peculiar way of beaching sail boats. They drive several yoke of oxen into the ocean and hitch them to the prow of the boat. Under her keel, ways are laid, and the vessel is then dragged in through the surf to the beach.

Q. What is the oldest contemporary portrait of an English sovereign? R. E. R.

A. The portrait of Richard II in the south bay of the sanctuary, Westminster Abbey.

Q. Can you give me the artist's interpretation of Life and Love? E. S. T.

A. George F. Watts, is quoted as follows in a recent book by Maude Howe Elliott: "Life is a poor thing at best, toiling up a steep, rough path, and unless helped by Love, not worth having. Love does not lift the burden from Life, nor give it very much support, but touches it gently, tenderly and makes the stony path endurable." This is the artist's interpretation of his painting.

Q. Are there many Chinese and Japanese paintings in the Charles Freer Collection? A. E.

A. There are over 1200 Chinese paintings and about 800 Japanese.

Q. Was there ever a time prior to the present when sculptors colored their marbles? S. D.

A. The sculptors of classic and medieval times practiced this custom. In the case of sculpture in the grand style, polychromy was not abolished from sculpture until Michelangelo's day. At that time, antique statues which had been washed white by the rain were discovered and their beauty caused the custom of coloring marble to fall into disuse.

Q. Who are the two small figures in the painting The Transfiguration to the left of the Three Disciples? L. A. J.

A. Raphael was commissioned to execute this painting by Giuliano de Medici. These figures are the patron saints of the Cardinal's father and uncle — Julian and Lawrence.

Q. Where are the Pitti and Uffizi Galleries? W. C. S.

A. They are in Florence. The Pitti is the second largest palace in the world. Both are now used as art galleries. The Palazzo Pitti was begun by Brunelleschi and completed by Ammanato. It houses a wonderful library as well as a magnificent art collection. The galleria degli Uffizi also contains one of the chief art collections of the world. It was founded in the 15th century. The river Arno separates the two palaces which are connected by a covered gallery over the Ponti Vecchio.

Q. Please give some information regarding The Madonna of the Harpies. L. C. Y.

A. The painting about which you have inquired is correctly called The Madonna of St. Francis. It is derived from the little carved figures which decorate the pedestal below the feet of the Madonna. The artist is Andrea del Sarto. The painting hangs in the Uffizi Gallery, Florence.

Q. Did Corot receive high prices for his pictures, or did he die a poor man? U. M.

A. Corot, the French landscape painter, exhibited his first picture in the Salon in 1827, but it was not till nearly 20 years later that his genius as a painter was generally recognized. He was then about 50 years of age. The last 25 years of his life were spent in different circumstances, as his professional income was very large, and he inherited a fortune from his father.

Q. Did Michelangelo prefer

painting to sculpture? E. T.

A. Michaelangelo was essentially a sculptor and painted only under protest. Also a poet, he expressed this idea in a sonnet in which he said that in every block of marble he saw an imprisoned idea awaiting the sculptor's art to be freed.

Q. Who invented painting in oils? B. A. R.

A. Jan Van Eych of the Flemish School, has been generally credited with the invention, or at least the first practice, of painting in oil.

Q. What are some of the lost arts? T. W. U.

A. Among the most notable of the lost arts are the making of malleable glass, the manufacture of certain dyes, notably Tyrian purple, and the manufacture of Damascus steel.

Q. Why was Daniele da Volterra called the breechesmaker? D. V. Y.

A. The painter, Daniele da Volterra, was commissioned to add draperies to some of the figures in the painting The Last Judgment, after the accession of Paul IV. The title, il Braghettone, was, because of this circumstance, given to the painter.

Q. Was it the practice of G. F. Watts to sell his pictures? E. F. G.

A. Watts did not sell his canvases. He gave his pictures to the nation.

Q. How many easel pictures can without question be attributed to Michaelangelo? H. F. W.

A. The Holy Family which is now in the Uffizi Gallery, Florence is the only one. The work was executed by Michelangelo for Angelo Doni, of Florence, in 1503.

Q. What are included in the Greek Biblical Manuscripts on exhibition at the Freer Gallery of Art in Washington? F. A.

A. The most important of the so-called Washington Manuscripts include Deuteronomy and Joshua, the Psalms, the four Gospels and a fragmentary manuscript of the Epistles of Saint Paul.

Q. Was the Mr. Mills, who made the famous statue of Jackson on horseback, an Indian? E. L. M.

A. Clark Mills was not an Indian. He was an American sculptor born in Onondaga County, New York, December 1, 1815. He died January 12, 1883. In 1848 when he was on the eve of leaving for Europe to study the art of sculpture, he received a commission to erect an equestrian statue of General Jackson. According to the story, Mills had never even seen an equestrian statue. He, however, set to work, designed his model and then found it necessary to learn the art of bronze casting, inasmuch as there was no one in this country prepared to mould his figure in bronze. The statue of General Jackson by Mills is in Lafayette Square, Washington, and a replica is in New Orleans.

Q. What is the size of the original painting Mona Lisa? F. S. S.

A. This canvas is 2 feet 6 inches by 1 foot 9 inches.

Q. What is meant by Pollice Verso? I think it is the name of a picture. A. H. S.

A. This famous painting by Gerome is that of the victor in a gladiatorial contest standing over his vanquished rival looking toward the spectators for their verdict. They are represented with thumbs down (the latter being the meaning of the words Pollice Verso) which signal meant death to the defeated. A well known philologist has passed the opinion that the "thumb symbolized the short Roman sword, and the gesture which meant the death of the vanquished gladiator was given by turning the hand over, into an unnatural position with the thumb (sword) pointing

at the defeated man."

Q. Is the Faun that inspired Hawthorne's Marble Faun still on exhibition? M. G.

A. The Faun by Praxiteles is in the Capitol at Rome.

Q. What has become of the statue of George Washington which used to stand or sit in the plaza east of the Capitol scantily clad with one hand lifted toward the sky? M. W. F.

A. This is known as the Horatio Greenough Statue of Washington and is now in the Smithsonian Institution on the ground floor.

Q. What methods were employed by the Romans in executing mural decorations? B. T. R.

A. The principal methods used by the early Romans were: painting in fresco; mosaic painting; and marble incrustations.

Q. Who painted the tiny portraits of the King and Queen in the throne room of the Queen's Doll's House, at Wimbledon? A. V. T.

A. One of the most celebrated of contemporary portrait painters executed these portraits — Sir William Orphan, R. A.

Q. Who executed the statue of William Penn on the top of City Hall, Philadelphia? M. C.

A. The sculptor is Sterling Calder.

Q. If the head of Lincoln by Gutzon Borglum, in the Capitol at Washington were placed on a figure what would the proportions be? W. S.

A. This head of Lincoln in the rotunda of the Capitol is a head in scale to a standing figure 28 feet high.

Q. Was the Colossus of Rhodes as tall as the Statue of Liberty? H. F.

A. Pliny and Strabo place the height of the Colossus of Rhodes at 70 cubits. or 105 feet. Later writers estimate it at nearly 80 cubits. The Statue of Liberty is 151 feet high, placed on a pedestal of 155 feet.

Q. What is the Virgin of Alsace? V. T. R.

A. You evidently refer to Bourdell's memorial which is to be placed on the highest peak of the Alsatian Alps in memory of the men who fell in the World War. A mother offers in sacrifice her child whose body forms a cross. The original design in marble is now on exhibition in this country.

Q. How long did St. Gaudens work on his Peace of God or Grief Statue which stands in Rock Creek Cemetery? M. G.

A. Augustus St. Gaudens says in his autobiography that the Adams memorial succeeded The Puritan on the scaffolding in 1887. It was finished in the late summer of 1891.

Q. What American sculptor has modeled the largest number of designs for medals? N. S. G.

A. It is probable that James Earle Fraser has.

Q. What is the largest painting in the world? H. T. B.

A. The Last Judgment, by Michelangelo in the Sistine Chapel, Rome, is said to be the largest.

Q. In The Ambassadors by Holbein there is a strange looking object in the lower foreground. What is its significance? S. E.

A. The reference is to a human skull which serves as a rebus on the painter's name. Holbein means skull.

Q. How long was the artist Whistler employed in the Coast Survey in Washington? D. M.

A. After being discharged from West Point for deficiency in chemistry, Whistler secured a position with the Coast Survey where he remained three months

and five days. One day the young draughtsman sketched a caricature in the margin of a plate of some charts. These appeared when the plate was dipped in acid. Whistler was dismissed for the prank.

Q. How much was Michelangelo paid for the supervision of the construction of St. Peter's? S. A. D.

A. The architect, sculptor, and painter, Michelangelo, undertook this work for the repose of his soul without emolument.

Q. Please identify the figures in A Reading from Homer. A. H. D.

A. In Lawrenz Alma Tadema's painting, a professional Greek reader and interpreter looks up from his scroll. A hunter lies on the floor. At the extreme left stands a traveler. The man with the harp is Phaon. The beautiful woman is Sappho. The legend concerning the latter two has been incorporated in the painting.

Q. What is the name of the St. Gaudens statue in Rock Creek Cemetery? E. F. G.

A. It is correctly called the Adams Memorial. St. Gaudens had no intention of symbolizing Grief in designing the figure. He said that to him it represented the soul face to face with the greatest of life's questions—"If a man die shall he live again?"

Q. How long ago did sculptors take plaster casts of living persons? K. F.

A. Andrea Venocchio (Andrea di Cione, 1435-1488) was one of the first artists to take a plaster cast of a living person.

Q. Which art association is the oldest in the United States? T. D. B.

A. This distinction belongs to the Pennsylvania Academy of Fine Arts.

Q. When was the Statue of Liberty brought to America? H. E. A.

A. The head of the Statue of Liberty was completed for the Paris Exposition in 1878; the forearm had been sent to America and shown at the Centennial Exposition, Philadelphia, in 1876. The statue was finished in 1883; on July 4, 1884, M. De Lesseps, President of the French Committee officially presented it to Ambassador Morton; on August 5, 1884, the cornerstone of the pedestal was laid on Bedloe's Island; late in June 1885, the French vessel, Isere, from Rouen, France, landed the statue at New York in 210 packing cases; the work of putting the parts together was begun in May 1886, and the statue was unveiled on October 28, 1886.

Q. What color is the Statue of Liberty? R. H.

A. The Statue of Liberty on Bedloe's Island in New York is constructed of bronze. A long exposure to the elements, however, has resulted in the formation of a deposit on the statue, which gives it a grayish green appearance.

Q. As regards size, how is The Horse Fair by Bonheur compared with other canvases? C. E. B.

A. The painting to which you refer is said to be the largest canvas ever executed by a painter of animals.

Q. What pictures are considered the twelve masterpieces of the world? M. L. T

A. No one is equipped to say which are the twelve greatest, but a consensus of opinion has resulted in the selection of the following as coming under this classification: The Last Supper—Leonardo da

Vinci; The Last Judgment — Michelangelo; Descent from the Cross — Daniele da Volterra; Sistine Madonna — Raphael; Assumption of the Blessed Virgin — Titian; Holy Night — Corregio; Communion of St. Jerome; Aurora, Preceding Chariot of the Sun — Guido Reni; Immaculate Conception — Murillo; Descent from the Cross—Rubens; The Transfiguration — Raphael; Sortie of the Civic Guard — Rembrandt.

Q. Who was the first woman sculptor honored by membership in the National Academy of Designs? S. A. D.

A. Evelyn Beatrice Longman, 1919.

Q. Is there a portrait of Christopher Columbus that was painted from life? W. S.

A. More than eighty portraits of Columbus are known, but none of them was painted from life or even during the lifetime of the discoverer.

Q. Which painting by Whistler was the first to be acquired by a public gallery? S. G.

A. The Portrait of Carlyle. It was bought in 1891 by the corporation of the city of Glasgow. The Luxembourg bought his Portrait of Whistler's Mother at about this time.

Q. What is the inspiration of The Pot of Basil by Alexander? P. D. T.

A. The artist was inspired by the poem Isabel by Keats which was derived from the Italian of Giovanni Boccaccio.

Q. What scale of proportions is used by artists? F. G.

A. George Julian Zolnay says "While all sorts of scales and measuring systems have been evolved at various times, few, if any modern sculptors go beyond the proportional measurement by which the height of the human figure is divided into 8 parts taking the head as a unit, or ten parts by taking the face as a unit. Personally I prefer the latter because it applies with accuracy to a large number of fixed points of the body. The length of the upper arm from shoulder to elbow is exactly two face lengths while another two lengths give the accurate distance from the elbow to the second point of the fingers, etc."

Q. Who was the model for the Gibson Girl? K. L. C.

A. Charles Dana Gibson says that in spite of his efforts to make a variety of types by drawing from many different models, there was in his case as in so many others, a tendency to a type. This type was labeled not by him but by others, the Gibson Girl. It would not be fair to say that any one model was responsible.

Q. Where is the first representation in art of a cavalry soldier? D. E.

A. There is such on an Assyrian bas-relief of 734 B. C.

Q. Who was the first artist in America? R. S.

A. The first professional artist in America of whom there is any record was Deacon Shem Drowne of Boston. He is described as an artificer in metals and in wood carving. He made the hammered copper grasshopper which still surmounts the weathervane of Faneuil Hall.

Q. What is a Berlin portrait? G. R.

A. It is a photograph to which a mezzotint effect has been given by placing a ground glass over the negative during printing.

Q. Please give some statistics concerning the highest air photograph. F. A. P.

A. The highest aerial photograph covers an area of 19 square

miles. The camera had a focal length of 12 inches. The picture taken by Lieutenants Stevens and McReady flying over Dayton, Ohio was snapped from a height of 32,220 feet.

Q. Has a picture ever been taken of a rainbow with a camera? C. L.

A. The Weather Bureau says that numerous pictures have been taken of rainbows and that an excellent one taken by G. A. Clarke at Aberdeen, Scotland, appears in his book, Clouds, and in Prof. W. J. Humphrey's Proverbs and Paradoxes.

Q. Everywhere I go, I see copies of the Blue Boy. Why is it so wonderful? J. A. S.

A. The Blue Boy is one of the most important paintings by Gainsborough, who was an eminent English painter. This portrait was painted when the artist was at the height of his fame, and regarded as one of the greatest masters of the English school of portraiture. It is said to have been painted to refute an argument of Sir Joshua Reynolds that blue was a color unsuitable for the main light of a work.

Q. What is chiaroscuro? H. T. K.

A. This name is given to the arrangement of light and shade in painting. It is that element which not only gives volume to an object but also gives an impression that the light is carried into the shadows and that were the shadows suddenly lifted, the substance of the picture would be revealed. Da Vinci, Corregio, Grunewald, and Rembrandt were the masters of this technical characteristic of the art.

Q. Who was Phaon depicted in A Reading from Homer? H. N. S.

A. Phaon was a deformed boatman of Mytilene. He was famed for his chivalry. Once an old woman asked him to ferry her across the sea although she could not pay her fare. When safely across the sea the woman gave the kind ferryman a box of ointment, telling him to rub the contents on his misshapen shoulders. When he did so, Phaon was changed to a handsome young man. Venus, in the guise of the old woman, had wrought the miracle. Soon Phaon and Sappho became lovers.

Q. When was Von Munkacsy's Christ Before Pilate painted, and what did it sell for? C. E. J.

A. Von Munkacsy's famous painting Christ Before Pilate was completed in 1881. This painting was purchased by John Wanamaker, for about $150,000 and was awarded a gold medal at the International Exhibition in 1889.

Q. Who made the casts of President Lincoln's hands in the National Museum? Are these casts given away? J. W. D.

A. The casts of President Lincolns' hands in the Museum were made by Leonard Volk. The National Museum has not given any of these casts away. The molds are in the custody of the preparator in the Division of Anthropology, who is authorized to make copies for sale to applicants at the nominal cost of his services and materials. Such transactions are entirely personal with him.

Q. Are there any real Greek paintings in the world? V. O. D.

A. On a tripod in the Naples Museum are mounted a few thin slabs of marble, the paintings upon which constitute the only real Greek paintings possessed by the world.

Q. Was there ever a time when foreign artists were unpopular in Rome? N. W.

A. The master painter Masaccio disappeared in a street of Rome and his death is still a mystery. Gentile da Fabriano died equally mysteriously, while painting the Lateran frescoes. Siguorilli's son was cruelly beaten while in Rome.

VI

ASTRONOMY

Q. Is there a point on the earth's surface at which point it has been agreed that the new day begins? H. P. B.

A. Each day begins at East Cape, the easternmost extremity of Siberia, before it begins at any other place.

Q. What is the curvature of the earth per mile? E. W. A.

A. The Naval Observatory says the measure of the curvature of the earth is approximately eight inches per mile.

Q. How does the mass of the earth's atmosphere compare with that of the earth? A. D. E.

A. The total mass of the atmosphere has been calculated to be 1-1,000,000 or 1-1,125,000 of the mass of the earth.

Q. Which star sends us the most heat? H. S.

A. The star Alpha Orionis sends the most heat to the earth.

Q. How long does it take light to reach the earth from the moon and stars? M. R. Y.

A. Light traveling at the rate of 186,000 miles per second requires 1.2 seconds to reach us from the moon, 8 minutes to come from the sun and 4 1-2 years to cross the space between us and the nearest star. The Hercules star system is so far distant that the light which left it 36,000 years ago has only just reached us, while there is another globular cluster that is distant more than 200,000 light years from the earth. A light year is nearly six million million miles.

Q. Is it sunrise when the first line of light appears or must the full orb be seen? M. L. N.

A. It is sunrise when the upper edge or limb of the true sun, as corrected for refraction, is in contact with the sensible horizon of a place.

Q. How does the mass of the earth compare with that of Jupiter and Saturn? F. A. B.

A. If a bronze cent were to represent the mass of the earth, Saturn could be 11 silver dollars, Jupiter 37 silver dollars, and the Sun 750 times the mass of all the planets and their satellites together.

Q. What is the earth called which corresponds to the word atmosphere?

A. The solid earth is called the lithosphere and the water the hydrosphere.

Q. What is the Nautical Almanac? M. G.

A. The American Nautical Almanac is a mathematical publication of the Bureau of Equipment of the Naval Observatory. It contains tables of positions of various heavenly bodies at stated times and other information of like nature and is issued several years in advance. It is used by navigators, astronomers and geodesists.

Q. What is ether? A. S. R.

A. It is the medium through which, according to the wave the-

ory, light waves are transmitted through space, etc. It has been assumed that inasmuch as ocean waves are made of water, and sound waves are made of air, light waves must be composed of something, and to supply this want in our knowledge a medium called the ether was imagined. Experiments of different kinds have cast a doubt on the existence of ether, but the facts of radiation and of other familiar phenomena demand a connecting medium which conveniently is called the ether.

Q. What lies beyond atmosphere or ether? L. C. C.

A. Ether is not atmosphere. Ether fills space beyond the limits of the air or atmosphere. It is thought to be more elastic than any ordinary form of matter and to exist throughout all known space, even within the densest bodies. Electric and magnetic phenomena can be explained as due to strains or pulsations in the ether.

Q. What is the difference between the circles and the belts of Saturn? A. G.

A. The rings of Saturn are swarms of very small satellites revolving in orbits that are nearly circular and that lie in the same plane. The belts to be seen on the surface of Saturn itself are cloud formations and are purely atmospheric phenomena.

Q. Are any of the stars hotter than our sun? V. R.

A. Professor E. E. Slosson says that the Orion stars are the most massive and hottest of all the stars. Their surface temperatures are believed to be at least as high as 20,000 degrees as compared with the surface temperature of 11,000 degrees for our own sun.

Q. Why is it that we can not hear the noise of the earth's rotation? A. N.

A. The earth is a globular mass, rigid as steel, revolving freely in space. There is no friction due to this rotation and no vibration. Consequently there is no noise. The earth is often likened to an immense fly-wheel, and to any one who has seen a large fly-wheel of steel revolving silently, but with great rapidity, the comparison is striking.

Q. How many moons has each of the planets in our solar system? M. H.

A. The number of satellites known at present is as follows: Mercury, none; Venus, none; Earth, one; Mars, two; Jupiter, nine; Saturn, nine; Uranus, four; Neptune, oı

Q. How does the Naval Observatory find out the exact time and what kind of clock records it? W. W.

A. The basis of reckoning standard time at the United States Naval Observatory is transit observation of the stars. The Observatory has three standard clocks running in a constant temperature vault, electrically wound, and sealed to keep the air pressure constant. Meridian circle observations of selected stars are taken regularly on clear nights, and from these observations the errors of the standard clocks are determined and corrected.

Q. Where is the earth's crust thinnest at the present time? F. N.

A. The shell of the earth beneath the Pacific Ocean is relatively thinner than it is in any other part of the world. The Nero Deep, near the Island of Guam, is 5,269 fathoms, or approximately six miles deep. This depth of water, of course, reduces the thickness of the earth's crust by just so many miles as the water is deep.

Q. How much does the earth weigh? J. I. W.

A. The weight of the earth is estimated to be 6,000 billions of billions of tons.

Q. How far south are the Northern Lights seen? B. F. B.

A. The Aurora Borealis is sometimes seen as far south as 20 degrees north latitude, though at very infrequent intervals.

Q. How long does twilight last? D. A.

A. Light is reflected from the higher parts of the atmosphere until the sun is about 18 degrees below the horizon. Near the equator there is little twilight because of the swiftness with which the sun traverses this distance and because of the transparency of the atmosphere. In the high latitudes twilight sometimes lasts from sunset to sunrise. The state of the atmosphere as to clouds, etc., has a direct bearing on the length of twilight.

Q. How long is the earth's orbit? H. H.

A. The earth travels 584,600,000 miles on its annual trip around the sun, that is, approximately 1,601,604 miles per day.

Q. How near a circle is the earth's orbit? H. W. P.

A. It varies only slightly from being a circle. Its eccentricity is but 0.01677.

Q. Who built Mt. Wilson Observatory? S. B.

A. Mt. Wilson Solar Observatory was founded in 1904 by Dr. George E. Hale. It was built and is maintained by the Carnegie Institute of Washington, of which it is the astro-physical department.

Q. Was there a theory as early as the 13th century that the earth was round? A. S.

A. A volume unearthed from a library in Oxford University entitled "The Metrical Lives of the Saints," written by a monk at the end of the 13th century, contains the stanza "As an appel the urthe is round, so that evermo half the urthe the sonne by-schyneth, hou so hit evere go."

Q. What people discovered the relation between the tides of the sea and the motions of the moon? M. C. D.

A. The Phoenicians are credited with this discovery.

Q. What is meant by earthshine? C. D.

A. The faint light that is visible on the portion of the moon which is not directly illuminated by the sun. It is due to the light which the earth reflects on the moon, and is most conspicuous soon after the new moon, when the sun-illuminated part of the moon's disk is smallest.

Q. What would happen if the earth stopped revolving? W. M. W.

A. The late Camille Flammarion, the noted French astronomer, expressed his opinion as follows: "Were the earth suddenly stopped in its course, the shock would be transmitted by recoil, so to say, to all the constituent molecules of the terrestrial globe, as if each received a stunning blow; the whole earth would be instantaneously luminous and burning, and an immense conflagration would devour the world."

Q. Are there two sides to a rainbow? T. C.

A. You can never see a rainbow unless you are between it and the sun. You could never see a rainbow if you were looking at the sun, so if you see one you may know that anyone on the other side of it could not see it because he would be looking at the sun.

Q. How high does the earth's atmosphere extend? W. H.

A. It does not extend in appreciable quantities more than 100 miles above the earth. At this altitude its density is about one four hundred millionth of that at the earth's surface.

Q. Is there ever a rainbow at

night due to moonlight? J. McD.

A. The so-called lunar rainbow, or moon rainbow, is well known, though not very frequently seen, owing to the relatively feeble light of the moon.

Q. Is the earth traveling directly toward the star Vega, and at what speed? C. S. G.

A. As far as the earth is concerned, the course is not a straight line, but a spiral, composed from the motion of the earth around the sun and its motion with the sun. The rate of motion is about 12 miles per second.

Q. If the earth turned on its axis the other way, would the year be the same length? M. W.

A. The Naval Observatory says that the earth rotates on its axis in the same direction that it revolves around the sun. Looked at from above the north pole, this direction is opposite to that of the hands of a watch. If either of the two motions were reversed, the other remaining the same, there would be two more days in a year than there actually are.

Q. At what depth can heat sufficient to produce steam be found in the earth? R. M. S.

A. It has been estimated that the temperature of the earth increases at the rate of 1 degree Fahrenheit for each 60 feet. Steam can be produced, therefore, at a depth of 12,720 feet.

Q. In how many years do the astronomers believe that the day will be one minute shorter? R. G.

A. The days are lengthening, not shortening, by a small fraction of a second in a thousand years.

Q. How fast is the solar system moving? T. C. C.

A. The solar system is moving with a velocity of about 12 miles a second towards a point in the constellation Hercules whose approximate right ascension is 270 degrees and declination 34 degrees north.

Q. How many meteors come within the earth's atmosphere? C. A. M.

A. It is computed that between 10 and 20 million strike the earth's atmosphere daily. Two or three meteorites are seen to fall yearly. Since a large part of the earth is covered with water or uninhabited, it is thought probable that about 100 strike the earth annually. It is not known positively that meteors and meteorites are composed of the same materials.

Q. What is a sun dog? W. T. R.

A. When other combinations of reflections from snow crystals occur so as to double or treble the brightness of spots in the parhelic circle, these spots are called mock suns or sun dogs. The parhelic circle is the reflection of the sunlight forming a band of white light around the horizon at the apparent angular altitude of the sun and usually passing through it.

Q. What is the diameter of the earth's shadow where the moon passes through it? A. L. D.

A. In making a calculation the mean distances of the sun and moon have been used. The earth's shadow at such a distance is 5,724.54 miles. The moon's diameter is 2,160 miles.

Q. If there were no inequalities in the surface of the earth would it be covered by water? J. F. G.

A. If all the solid surfaces of the earth were reduced to a level, it is estimated that the water would cover the globe to a very considerable depth—probably two or three miles.

Q. Is a meteor red hot when it lands on the earth? W. H. R.

A. Contrary to the popular impression, the meteorite when it

strikes our atmosphere is extremely cold; the heat developed in its passage is purely on the surface and in a very few seconds after its fall the stone should be about the temperature of ice water.

Q. What makes the earth go on rotating on its axis? T. M.

A. The earth continues to rotate on its axis because the only forces (such as friction by tides) tending to stop it are inadequate to produce an appreciable effect. The origin of this rotation is a matter for speculation, depending upon how the earth was separated from the primeval nebula out of which the solar system is believed to have been evolved.

Q. Does an object weigh less at the equator than the same object would at either pole? R. S. G.

A. The Naval Observatory says a body weighing 191 pounds at the earth's pole would weigh 190 pounds at the equator. This loss in weight is caused in part by centrifugal force and in part by the fact that at the equator the body is farther from the earth's center, and hence the earth's attraction is slightly less.

Q. Where is the oldest observatory which is still in existence? D. M.

A. At the meeting of the International Astronomical Union, Cambridge, England, Sir Frank Dyson, Astronomer-Royal, stated that the oldest existing observatory in Europe was at the Vatican.

Q. How long is a lunar year? W. H.

A. The lunar year is a period of 12 lunar months. The lunar astronomical year of 12 lunar synodical months, has a length of 354 days, 8 hours, 48 minutes and 34 seconds. The common lunar year consists of 12 lunar civil months, or about 354 1-2 days.

Q. Does light travel faster than the earth travels in its orbit? W. M. C.

A. Light travels 186,000 miles per second, while the earth travels only 19 miles a second on its journey around the sun.

Q. If a comet ever touches the earth, will it explode? M. G.

A. The mass of a comet is never large; and the material is, for the most part, exceedingly tenuous. It is probable that the earth, if struck by a comet, would witness nothing more than a meteoric shower. The explosions, if any, would be similar to those hitherto observed in the case of large meteorites.

Q. In photographing stars, is the star actually photographed, or is it the light given off by the star many years ago? E. T. C.

A. The image results from the chemical action of light that was emitted by the star years before. The same applies to the image of the star upon the human retina. A "new star" really undergoes the physical transformation years before the astronomer is aware of the fact.

Q. Does any part of the earth's surface change its level? J. M.

A. In some parts of the world the land is apparently rising, in others, sinking. The northern coast of Norway is rising 5 feet in 100 years. The coast of New Jersey and parts of New England coast are sinking, the rate at Boston being about one foot in 100 years, and on the New Jersey coast two feet.

Q. How many stars can be seen with the naked eye and how many with the largest telescope? W. E. B.

A. The number of stars visible to the naked eye, provided one stays at a single place in the United States for one year, would total 4,000. With modern telescopes it is estimated that 100,000,000 stars are visible.

Q. To settle an argument please state whether a star has ever appeared between the horns of the new moon? A. F. S.

A. A star can not possibly appear within the horns of the crescent moon.

Q. How warm does it get on Mars? W. L.

A. During the past opposition Dr. Coblentz of the Bureau of Standards made measurements of the temperatures on Mars. He found the planet warmer than formerly supposed, its daytime temperatures being at times as high as 40 degrees to 60 degrees Fahrenheit. Photographs were made by red and by violet light. Both sets of data indicate a denser atmosphere than had previously been assumed.

Q. Do we see exactly one-half of the moon? W. S. W.

A. Owing to the facts that the rotation of the moon on its axis and its motion around the earth are not quite uniform, and that the moon's axis is not qute perpendicular to its orbit, we do see extra portions of the eastern and western faces, and the north and south caps. These motions caused by these deviations are called the librations of the moon, and they allow about three-fourths of the moon's surface to be visible at one time or another.

Q. Why don't shooting stars fall on the earth and injure people? A. C. C.

A. Some pieces of shooting stars (meteors) do fall on the earth and specimens are kept in various museums. But usually when a meteor goes flying through the atmosphere the friction between the two is sufficient to melt it, and nothing but dust reaches the earth.

Q. Why aren't stars visible in the daytime? B. B. C.

A. Stars are not visible during the day because the superior light of the Sun and its reflected rays from objects on the Earth is so strong as to obliterate the tiny rays from stars so that they make no impression on the retina of the eye. At the bottom of a shaft or very tall chimney where no light enters and the direct rays of sunlight are cut off, the retina registers the rays from the stars and hence they become visible.

Q. How are the stars counted? S. A. M.

A. Photographs have been made of the entire heavens, showing stars as faint as the 17th and 18th magnitude. By means of these photographic plates it is possible to count or estimate the total number of stars of sufficient brightness to form images on the plates.

Q. Are there any stars as large as the distance between the earth and the sun? H. S.

A. There are at least two stars whose measured diameters exceed 93,000,000 miles.

Q. What star is it that is said to weigh tons to a pint? C. A. E.

A. The companion of Sirius. Recent investigations indicate that this star has a density of 70,000 times that of water.

Q. How many stars make up the Pleiades? R. T.

A. As observed with the naked eye there are seven stars in the group, but a small telescope reveals at least 100 more.

Q. Which star was the Star of Bethlehem? L. H. F.

A. No star has been certainly identified as the Star of Bethlehem. It is a common belief among Christians that this was a supernatural phenomenon.

Q. How many miles per year does the sun travel in its orbit carrying the solar system with it? T. F. J.

A. From the researches of various astronomers, it has been de-

termined that the cosmic linear velocity of the solar system is 12 or 13 miles per second. This is equivalent to about 400,000,000 miles per year. The solar system is traveling in the direction of Vega and it is estimated that it will reach that point in 560,000 years.

Q. Do the violet rays of the sun penetrate through a wire screen on the porch? At present I am taking sun baths so I would like to know whether the violet rays of the sun do me any good through a wire mosquito screen. R. B. H.

A. The violet rays of the sun do penetrate through wire screening.

Q. Is the sun actually a ball of fire? A. K. D.

A. Scientists agree that the sun is not burning and that combustion is not the source of its heat. The best explanation of the continuous accretion of energy in the sun is that it is due to shrinkage of the sun's bulk under the force of gravity.

Q. Is the sun nearer the earth in winter or in summer? Q. W. S.

A. The sun is approximately 3,000,000 miles nearer the earth on January 1st than on July 1st.

Q. How long does it take the light of the sun to reach us? G. R. G.

A. It takes about eight minutes and twenty seconds, or more exactly, 499 seconds, when the sun is at mean distance, 92,900,000 miles.

Q. How often is there a total eclipse of the sun? T. F.

A. There are about ten total eclipses of the sun in every 18 years. At any one place a total eclipse of the sun is visible on the average of once in about 360 years. There is no uniformity of interval in either case.

Q. How many candle power are cast off by the sun? I. S.

A. The late Camille Flammarion stated that photometric measures of solar light show that it is equivalent to 1,575,000,000,000,000,000,000 wax candles.

Q. Why isn't the heat of the sun dissipated when passing through space? R. H. V.

A. The heat of the sun produces waves in the ether which do not however produce any heat until they fall on the earth or some other body. There is no reason why they should be dissipated by motion.

Q. Why is Mars red? M. R. W.

A. Dr. Asaph Fall says that it may be granite rocks or it may be red clay that gives back a ruddy reflection in the sun's light.

Q. How many planets smaller than the eight major planets are there in the solar system? P. C.

A. There are over 800 small planets or planetoids circulating about the sun.

Q. Is there life on Venus? C. H. M.

A. The question can not be answered definitely. Dr. C. G. Abbot of the Smithsonian Institution says that it seems more probable that life corresponding to life on the Earth exists on Venus than on Mars. The conditions on Venus are similar to those on Earth while Mars probably differs in many ways.

Q. How is gravity on other planets measured? G. W.

A. Surface gravity on another planet, as compared with the Earth, is found by dividing the planet's mass—relative to that of the earth—by the square of its diameter—also relative to that of the earth. A body weighing 100 pounds on the earth would weigh 82 on Venus and only 38 on Mars.

Q. How many ranges of moun-

tains are there on the moon? H. M. R.

A. There are ten mountain ranges on the side of the moon visible from the earth.

Q. Do planets pass through phases as the moon does? T. P.

A. The planets Mercury and Venus, which are between us and the Sun, do pass through all the phases. Those beyond us can not pass through all the phases since they can never come between us and the Sun.

Q. Is it possible to see the planet Uranus? T. B.

A. Uranus is on the limit of visibility and may be seen without the telescope during spring and summer if one has a keen eye and knows where to look.

Q. Does the moon rotate on its axis? If so, how does it happen that we see but one side of the moon? T. R. P.

A. The moon does rotate on its axis. The exact coincidence of the moon's period of axial rotation with that of revolution about the earth is generally accepted as due to tidal influence. The moon is beieved to have been plastic at one time and great tides must have been produced by the earth's attraction.

Q. Why is it that sometimes when there is a new moon the outline of the whole moon is faintly visible? F. O. U.

A. This reflection is earthshine. On clear nights at the time of the new moon the light cast on it by the earth makes the whole surface toward us visible.

Q. What length of time is a moon so often referred to by Indians? J. E. C.

A. A moon is the time from a given phase of the moon to the same phase preceding or following. This time is about 28 days.

Q. How long is the moon full? F. F. R.

A. The full moon astronomically defined, occurs when the longitude of the moon differs by exactly 180 degrees from that of the sun. As this condition is momentary, the moon is full for an instant only.

Q. Is the moon brighter in the first quarter or third quarter? J. B.

A. The casual observer would probably notice no difference in brightness between the first and third quarter, but measures by Stebbins and Brown with a selenium cell indicate that the moon is brighter at the first quarter. A glance at the full moon shows that there are more dark areas on the eastern than on the western half.

Q. What substance on the moon clouds the surface and forms what we generally term the man in the moon? D. S.

A. The darker and lighter markings seen on the moon are due to irregularities of its surface, such as mountains, valleys, plains, etc. The darker portions are of lower elevation than the lighter and may formerly have been sea-bottoms. Temporary changes of shading are caused by variation of the angle at which the sun is shining on the surface.

Q. Why does the moon appear to be about the same size as the sun, when the latter is so much larger? P. B. H.

A. The sun is about 400 times broader than the moon and also about 400 times farther away, so that the perspective of distance makes it look about the same size.

Q. What is the cause of the moon being encircled sometimes with rainbow-colored bands? G. W. F.

A. A rainbow around either the moon or an artificial light is due

to droplets of water or minute ice-crystals floating in the air.

Q. Why does the full moon sail high in the winter and low in the summer? C. H. L.

A. The full moon is always nearly opposite to the sun. It is high in winter, when the sun is low, and low in summer when the sun is high.

Q. How often does the Aurora Borealis appear and to what distance south can it be seen? L. B.

A. The frequency of the Aurora Borealis varies with the latitude of the place. It is comparatively rare within 45 degrees of the equator, but more frequent towards the north, up to the latitude of about 60 degrees where it sometimes becomes almost a nightly occurrence. The Aurora is less frequent near the poles.

Q. When do the northern lights appear? J. F. C.

A. There is no specified time for the northern lights to appear. The cause of the Aurora Borealis is incompletely understood. There seems to be some connection between sunspots and the appearance of the auroras. Probably they are merely an electric luminosity of very rare gases. It is certain that the auroras are connected with the magnetism of the earth and that a strong influence upon the magnetic needle is exerted in some manner.

Q. How large is Halley's Comet? A. F. P.

A. The head of Halley's Comet is much larger than the earth. On May 5, 1910, the length of the comet's tail was 37,000,000 miles.

Q. What has become of Biela's Comet? J. L. K.

A. This comet was visible at intervals of slightly over six and a half years. At its appearance in 1846 it had divided into two parts. In 1852, the parts were 1,550,000 miles asunder. It has not been seen since, and the presumption is that it has disintegrated, forming material for shooting stars.

Q. Has Halley's Comet come closer to the earth than Mars did last month? F. J. M.

A. Halley's Comet was at its least distance from the earth on May 20, 1910; namely, 14,000,000 miles. Mars at its closest, was more than 34,000,000 miles away.

Q. Why is Halley's Comet so famous? M. Q. J.

A. Halley's Comet is famous because it was the first whose periodicity was predicted. This was in 1704, but the verification did not take place until 1759.

Q. Has a large comet ever reached a point near the sun before its presence was suspected? E. W. B.

A. Large comets have sometimes reached a point near the sun before being discovered. This was the case with the great comet of 1843. A comet might approach its perihelian point from a direction nearly in line with the sun, as seen from the earth, which would make it difficult to observe.

Q. Is any comet due to return about 1963? P. E.

A. Halley's Comet will return about 1985. It is the only conspicuous comet whose return can be predicted. A previously unknown comet may appear at any time.

Q. When was Donati's Comet last visible? M. E. E.

A. Donati's Comet was visible in September and October, 1858, and was the finest of the century. It is due to return after 2,000 years. The head was 250,000 miles across and the tail extended more than half-way from the zenith to the horizon.

Q. Please give the locations of

the magnetic poles. G. S. S.

A. The North Magnetic Pole is in approximately 70 degrees north latitude and 96 degrees west longitude in northern Canada. The South Magnetic Pole is located on the Antarctic Continent at approximately 72 degrees south latitude and 155 degrees east longitude.

Q. What are the magnetic poles? K. C. W.

A. The magnetic poles are the points on the earth's surface where the lines of magnetic force are vertical. They are the ends of the axis of the earth's magnetic polarity.

Q. Does the south magnetic pole attract a compass needle? J. P. R.

A. While the north magnetic pole attracts the north end of the needle and repels the south end, the south pole repels the north end and attracts the south end. This is true no matter in what part of the earth the needle is placed, and there is no reversal of the needle when the magnetic equator is crossed.

Q. Why are the days longer than the nights at the equator? R. L. McP.

A. At the equator, from sunrise to sunset is seven or eight minutes more than 12 hours. Owing to the effect of the earth's atmosphere in bending the sun's rays, owing also to sensible width of the sun's disk, a little more than one-half of the equator is always illuminated and a little less than one-half is always in darkness.

Q. How far apart are the geographic North Pole and the magnetic north pole and which is true north? C. R. W.

A. The Geological Survey says that the latitude of this magnetic pole is 70 degrees 05 minutes and the longitude 96 degrees and 46 minutes west. It is nearly 1,400 miles south of the North Pole. True north is the point on the true meridian directly north. The true north means the geographic North Pole.

Q. Where will a pendulum work faster, at the poles or at the equator? W. E.

A. A pendulum swings faster at the poles. The earth is flatter in the polar regions, so the attraction of gravity is greater.

Q. Are the magnetic poles stationary? N. D.

A. Because of the observed changes in the direction of the magnetic needle from year to year, it is believed that the magnetic poles are not stationary; but their motion is undoubtedly slow.

Q. If the earth should cease to rotate, would bodies at the equator weigh more or less than they do now? W. F. B.

A. If the earth should cease to rotate, the weight of bodies at the equator would be increased by the 1-288 part.

Q. How fast does Halley's Comet move through space? M. C.

A. The speed of Halley's Comet varies from 34 miles a second when nearest to the sun to less than a mile a second when furthest from it. The head of Halley's Comet is very much larger than the earth.

Q. How does the attraction of the moon for the earth compare with gravity? K. C.

A. The moon's tide-raising force, when the moon is in the zenith, is about one nine-millionth part of the force of gravity. A ship weighing 45,000 tons would lose 10 pounds of its weight when the moon is overhead.

VII

AUTHORS

Q. Which nation has produced the greatest short story writers? N. W.

A. No one is in a position to say which nation has produced the greatest short story writers. Russia, France, England and the United States are noted for literature of this class. The French regard Edgar Allen Poe with special esteem and some of the French critics credit him with being the father of the short story.

Q. Did Shakespeare gather his world-wide experiences from actual travel? C. K. A.

A. It is estimated that William Shakespeare never made a continuous journey so far as a round trip from New York to Boston.

Q. Kindly give me figures on the subject of the length of sentences of great English writers prior to 1850. J. L. J.

A. Edmund Spencer averages about 50 words to each of his prose sentences. Richard Hooker averages about 41. Milton sometimes has more than 300 words in a sentence. Macaulay's sentences average 22 words.

Q. Where was Marco Polo when he wrote the account of his voyage to Cathay? M. P. L.

A. Marco Polo lay in a prison in Genoa, Italy when he wrote the account of his travels. His first-hand knowledge was gained by a residence of 17 years in Cathay where he was on official duty.

Q. What pseudonym did Washington Irving use? W. G. G.

A. During the early period of Irving's writing career, he used the pseudonyms Jonathan Oldstyle, Launcelot Langstaff, Diedrich Knickerbocker and Geoffrey Crayon.

Q. Was there a real person named Cyrano de Bergerac? A. W.

A. Savinier Cyrano de Bergerac was a French author who was born in 1619 and who died in 1655. Edmund Rostand wrote a drama in which de Bergerac was the hero, and the play was in many ways true to facts. The real de Bergerac was distinguished for his courage in the field, and for the duels he fought. These numbered more than a thousand, most of them fought on account of his monstrously large nose.

Q. What is a good biography of Charles Dickens? J. S. H.

A. Perhaps the best biography of Charles Dickens is that written by his friend, John Forster, published in London in 1872.

Q. Who was the author of the New England Primer? K. N.

A. Benjamin Harris, an English versifier and printer, compiled the New England Primer, which was an abridgement of an earlier work known as the Protestant Tutor and was published prior to 1690, in Boston.

Q. Was Lewis Carroll the real name of the author of Alice in Wonderland? T. W.

A. Alice's Adventures in

Wonderland was written by Charles Ludwidge Dodgson who used the pseudonym of Lewis Carroll.

Q. What author used the pen name Fiona McLeod? A. M. W.

A. William Sharp, a Scottish poet, novelist and essayist, used this nom de plume.

Q. I saw a reference to John Heywood who said "A byrde in the hand is worth ten in the wood". Who was this John Heywood? B. E. B.

A. John Heywood was an English author probably born in 1497 and probably died in 1580. He was a favorite at the Courts of Henry VII, Mary, and Edward VI. He excelled in writing epigrams.

Q. Did the story of Atalanta's Race by Byron originate with him? E. L. C.

A. The story of Atalanta's Race was not conceived by Byron. It is contained in Greek mythology and mentioned by Ovid in his Metamorphoses.

Q. What nationality was Hans Christian Andersen? N. W. H.

A. This writer, who is best known for his fairy tales, was a Dane. He was known as The Children's Poet, but his "best poetry is his prose."

Q. Please give the full name of the writer whose nom de plume was Gyp. A. C. S.

A. Gyp was the pseudonym of Gabrielle Sybille Marie Antoinette Riquetti de Mirabeau, Comtesse de Martel de Janville.

Q. Is it known where Vergil was when he wrote the Georgics? T. R. J.

A. Vergil wrote the Georgics while living at Naples.

Q. Which character in Little Women was supposed to be the author? G. B. J.

A. The character of Jo is the author, Louisa M. Alcott.

Q. Does Octavus Roy Cohen write both detective and negro stories or does he employ an assistant to do one kind for him? I. M.

A. Mr. Cohen says that he writes both kinds of stories himself, finding great pleasure in changing from one to the other. He finds it refreshing to turn from one type of story to the other, thus keeping an enthusiasm for both.

Q. In Tennyson's writings, how high is the percentage of words of foreign derivation? In Shakespeare's? P. C.

A. One authority says that 12 per cent of the words used by Tennyson, and 10 per cent of those used by Shakespeare, are of foreign derivation.

Q. Who were called the Cockney Poets? P. W. E.

A. This nickname was applied by certain English critics to a literary coterie which included Leigh Hunt, Shelley, and Keats.

Q. Where did Edward Everett Hale get his idea for the story of the Man Without a Country? T. L.

A. The germ of the plot is said to have been suggested to Dr. Hale by his reading Scott's Life of Napoleon. It occurred to him that if Napoleon had been confined on one British warship after another instead of being sent to Saint Helena, England would have been spared much criticism and the French would not have been able to turn Saint Helena into a shrine. The local color which adds so much to the story was gained from the records of the Navy and the proceedings in the trial of Aaron Burr.

Q. Can you tell me the name of the French epigramatist whose witticisms rank with those of La Rochefoucould? A. W. A.

A. Sebastian Roch Nicholas Chamfort, whose aphorisms are

said to be "the keenest, the most incisive, and the most pregnantly cynical in modern literature."

Q. What is the name of the man who writes under the name of "Achmed Abdullah"? F. S. R.

A. Captain Syyed Shaykh Achmed Abdullah Nodir Khan el-Iddrissyieh el Duran. The captain was born in Kabul, Afghanistan.

Q. Is the author of The House by the Side of the Road still living? G. W. M.

A. Sam Walter Foss, the author of the poem Let Me Live in a House by the Side of the Road, died in 1911.

Q. What English authors were born in London? J. H.

A. Among them are: Bacon, Blake, Brown, Browning, Byron, Chaucer, Crashaw, Defoe, De-Morgan, Donne, Gaskell, Gibbon, Gray, Herrick, Hunt, Huxley, Johnson, Keats, Lamb, Milton, More, Morris, Newman, Pater, Pinero, Pope, Mrs. Radcliffe, Rossetti, Ruskin, Shirley, Spencer, Swinburne, Walpole, Zangwill.

Q. What are regarded as the best of Macaulay's Essays? G. E.

A. Probably the most famous of the essays of Macaulay are those on Lord Clive, Warren Hastings, and William Pitt, but others that deal with men of letters, Addison, for instance, or Samuel Johnson, are equally brilliant.

Q. Is there any American author of renown whose works were not published until after his death? T. D. E.

A. Perhaps Henry D. Thoreau of Concord, Massachusetts who died in 1862 comes nearest to answering this description. He published but two books while alive both at his own expense. One of them had a moderate circulation, the other almost none. All his life he kept a journal and all of this has subsequently been published so that his works now total about 30 volumes all of which are in print and in demand.

Q. Was Dr. Frank Vizetelly born in the United States? W. M. H.

A. Dr. Vizetelly was born in London and came to the United States in 1891 when he joined the editorial staff of the Funk and Wagnalls Company.

Q. What are the best of Scott's novels? D. L.

A. Scott's works of this character are more accurately described as historical romances. Ivanhoe, the Talisman, and Quentin Durward are often ranked as the best of these.

Q. Who wrote the Indian Love Lyrics? S. O. N.

A. They were the work of Amy Woodforde Finden, one of the most gifted of modern English song writers. A memorial to her was unveiled recently in an English church.

Q. Did James Whitcomb Riley ever write under a pseudonym? D. J. W.

A. Riley at one time used the pen name of Benjamin F. Johnson.

Q. On what book or work did Anatole France win the 1921 Nobel Prize? D. A. B.

A. The publication which gained Anatole France the Nobel Prize in 1921 is entitled La Vie en Fleur.

Q. Where was Sir Walter Scott born? O. H.

A. Sir Walter Scott was born at Edinburgh, Scotland, August 15, 1771, and died at Abbotsford, Scotland, the 21st of September 1832.

Q. Who wrote under the name of Peter Pindar? C. G. B.

A. Dr. John Wolcott of Devonshire who lived from 1738 to 1819

wrote under that name. One of his best known couplets is "You can not make, my Lord, I fear, a velvet purse out of a sow's ear."

Q. What is the story that caused Samuel Clemens to adopt the name Mark Twain? H. D.

A. In Life on the Mississippi is the story of a cocky young pilot whom the crew of the boat made the butt of a practical joke. While navigating one of the deepest places on the river they gave false soundings. He was finally frightened into ordering the engineer to back the ship. The leadsman's cry "Mark three; Quarter-less-three; Half twain; Quarter twain; Mark twain" suggested the name.

Q. Who wrote the story about the lady who threw her glove in a lion's den, commanding her lover to return it to her? R. S.

A. This story has been variously adapted by Schiller, Leigh Hunt, and Browning, but was originally told (about 1550) by Pierre Ronsard.

Q. Where was Alexander Dumas born? V. I. M.

A. The famous author was born in France. His father, General Alexander Dumas, was the natural son of the Marquis de la Pailleterie, rich colonist of Santo Domingo, and a negress named Dumas.

Q. When did Charles Egbert Craddock die? J. S.

A. Mary Noailles Murfree, who for years concealed her identity under the pen name Charles Egbert Craddock, died in 1922 at the age of seventy-three.

Q. Did Cervantes have a particular purpose in writing Don Quixote? L. M.

A. In writing this book Cervantes aimed to ridicule the romantic stories of knighthood which were at the time extremely popular.

Q. Did John Galsworthy ever write under a nom de plume? M. W.

A. The early fiction written by Galsworthy was published under the pen name John Senjohn.

Q. How long did Wentworth and Smith live after they published their geometry? A Student.

A. Elements of Plane and Solid Geometry was published in 1886 by G. A. Wentworth who died in 1906. His son George, and D. E. Smith have since collaborated in revising editions.

Q. Who wrote the words to America the Beautiful? D. D. G.

A. Katherine Lee Bates, a Wellesley College professor, is the author of the poem.

Q. Was Shakespeare rich? J. R. M.

A. Shakespeare became very prosperous, as did two other actor-managers of Elizabethan times—Henslowe and Alleyn.

Q. Did Mark Twain believe in a future life? C. C. G.

A. Mark Twain said, "I have never seen what seemed to me an atom of proof that there is a future life. And yet—I am strongly inclined to expect one."

Q. Did Oliver Wendell Holmes fight in the Civil War? D. D. G.

A. He served three years and was wounded three times. When mustered out he had the rank of captain.

Q. Was Henry Wadsworth Longfellow related to John and Priscilla Alden? O. A. A.

A. Through his mother's family Longfellow was descended from John Alden and Priscilla Mullens, whom he made famous in his poem The Courtship of Miles Standish.

Q. Is Dickens read more than Thackeray or Scott? L. B. T.

A. The Publisher's Weekly says

that Dickens is more widely read than Thackeray, Eliot, and Scott put together. There are no figures as to totals.

Q. Tell something of H. G. Wells' early life and training. B. H. M.

A. Mr. H. G. Wells was born at Bromley, Kent, England, September 21, 1866. He was educated there in private school and at Midhurst Grammar School and Royal College of Science, where he won First Class Honors in Zoology. Mr. Wells' father was a shop-keeper and his mother, who had been a lady's maid, became a housekeeper to eke out the family fortunes.

Q. Who wrote the rhyme "I do not like thee, Dr. Fell, The reason why I cannot tell, But this I know, and know full well, I do not like thee, Dr. Fell"? M. V. G.

A. Tom Brown, who was born in 1663, and died in 1704 was the author of the lines addressed to Dr. Fell, an instructor in a boy's school for whom the author felt an aversion.

Q. Why did John Oxenham turn from a business career and become a writer? H. P. J.

A. The author says that he took to writing as an alleviative and alternative from business; found it much more enjoyable than business so dropped business and stuck to writing.

Q. Why is it that all the editions of Joan of Arc do not have Mark Twains' name on them? H. E. B.

A. The fact that Mark Twain's name does not appear as the author of Joan of Arc is due to his desire to add to the illusion that the book was the record of another man. Some critics regard this as just another whim of the great writer who regarded his life of Joan of Arc as his favorite among his own books.

Q. Who was the author of Grimm's Fairy Tales? G. O. C.

A. These fairy stories including Tom Thumb, Hansel and Gretel, The Frog Prince, Rumpelstilstkin, and hundreds of others are actually folk tales of Germany which were collected from the peasants and compiled in the first half of the nineteenth century by two brothers, professors at the University of Berlin. Jacob Grimm was born at Hanau, January 4, 1785 and his brother, Wilhelm, February 24, 1786.

Q. Who wrote Now I Lay Me Down to Sleep? H. J. H.

A. Bartlett does not ascribe this prayer to any author merely saying that a version of it was included in the New England Primer. A reprint of the primer made in 1784 contained the words as we know them today. The prayer hymn, however, of which the prayer is the first stanza, was published by the Rev. M. W. Stryker in 1884.

Q. When and where was Kipling born and where does he live now? V. P.

A. Rudyard Kipling was born in Bombay, India, December 30, 1865; the son of John Lockwood Kipling, and Alice McDonald Kipling. At the age of five he was brought to England and educated. Returning to India he edited several papers and wrote voluminously. He visited the United States, and married in 1892, the daughter of H. W. Valestier of New York, and lived for several years in Vermont. Kipling now lives in Sussex, England.

Q. In what circumstances was Monsieur Beaucaire written? W. C. McC.

A. Booth Tarkington, in an interview related the following: "When I started I couldn't sell a story anywhere. I sent them to every publisher in the world, I guess, and they always came back. You were kind enough to say you like one of my first, 'Monsieur

Beaucaire.' I must tell you how I happened to write it. I had a friend who seemed enormously successful to me, and he asked me to illustrate a story of his. I could do that, at any rate, and I was very much pleased. Well, the magazine to which he sold his story failed, and there I was left with these illustrations on my hands. So I sat down and wrote a story to fit my illustrations and sold it. Wasn't that luck?"

Q. How much time per day did Francis Parkman devote to his writings? N. E.

A. When a young man Parkman spent a summer living a life of exposure and hardships among the Indians. This brought on a wasting illness, which permanently impaired his health. Parkman's sight was also seriously affected. At the best, the doctors allowed him but a brief working day. Sometimes he had but three or four isolated half hours in which to work. At times months passed without his being able to continue his study and dictation.

Q. How did Charles and Mary Lamb collaborate in writing Tales from Shakespeare? C. D. A.

A. Charles Lamb made the tragedies into short simple narratives and his sister did the work on the comedies.

Q. Please give some information regarding Rabindranath Tagore? V. E. B.

A. Rabindranath Tagore was born in 1860 in Calcutta. He went to Europe when 17 years of age to complete his education, after which he returned to India and became known as an educator and philosopher. He was the founder of a university in Bengal. His native language is Bengali, though he, himself, has translated many of his works into English. The poet visited the United States and spent some time at Urbana, Illinois.

Q. Did Mrs. Stowe make a fortune out of Uncle Tom's Cabin? D. L. H.

A. Mrs. Stowe was paid $300 for the serial rights for Uncle Tom's Cabin and for the stage rights she received little or nothing. Had she been rewarded on the present royalty basis her earnings from the play alone would have been about $2,000,000. She died in very moderate circumstances.

Q. Is the house in which Charles Dickens wrote Oliver Twist still standing? T. F. J.

A. The Dickens Fellowship has purchased the Charles Dickens house, at 48 Doughty Street, Mechlenburg Square, London, in which was written Oliver Twist, Pickwick Players, and Nicholas Nickleby. It will be endowed and equipped as a Dickens museum, library, and picture gallery.

Q. Who is Patience Worth? G. W. J.

A. Mrs. John H. Curran of St. Louis, writes under the so-called control, Patience Worth. She is seemingly a woman who lived centuries ago in England. Through Mrs. Curran, she has written novels and verse.

Q. Is the direct Shakespeare line represented by anyone now? A. L. D.

A. No; the line became extinct with the death of Shakespeare's only grand-daughter, Lady Barnard.

Q. Did Lew Wallace, the author of Ben Hur, ever visit the Holy Land? V. M. O.

A. General Wallace visited the Holy Land many years after he wrote Ben Hur. So extensive had been his studies that he afterwards said that he did not find a single error in his record.

Q. How much did the publisher Constable give Sir Walter Scott for Marmion? G. S. S.

A. The sum was 1,000 pounds.

VIII

AUTOMOBILES

Q. How many automobiles are paid for in full when purchased and how many are bought on time? E. K.

A The National Automobile Chamber of Commerce says that 75 per cent of the automobiles bought are on time payment, and 25 per cent are bought for cash.

Q. Do men or women think more quickly when driving an automobile and an emergency arises? C. S.

A. According to tests recently made by Dr. F. A. Moss of George Washington University, and H. H. Allen of the United States Bureau of Standards, in which 25 men and 10 women were put through a series of tests, it was found that the average reaction time of the women was 0.56 seconds and that of the men 0.59 seconds, and the average variability of the women 0.17 seconds and that of the men 0.22 seconds.

Q. How many chauffeurs are there in the United States? A. L. G.

A. According to the last census, there are 285,045 listed in this occupation. Of these all are men except 949.

Q. What countries lead in number of automobiles in proportion to population? C. A. G.

A The United States is first, having one automobile to every six persons; Hawaii is second with one to every 11; and Canada third with one to every 13. There is one automobile to every 71 persons inhabiting the earth.

Q. Is the idea of rent-a-car, drive-it-yourself gaining in popularity? E. G.

A. Almost all towns of any size have some service of this sort. One such system has one rental agency or more in each of 225 cities.

Q. Has Miller's time for crossing the country in an automobile been beaten? J. M. C.

A. Ab Jenkins has lowered the record. His trip from New York City to San Francisco, June 14-17, 1926, was made in 86 hours and 20 minutes, total elapsed time. Miller's record was 102 hours and 45 minutes from Jersey City to Oakland.

Q. What year were autos first licensed? W. P.

A. In 1893 Elwood Haynes of Kokomo, Indiana, was granted a license to run one of the first makes of the Haynes car. In 1896 there was a license issued in Rochester, N. Y., to Jonathan West which was the outcome of what is known as the Jonathan West and Swiss Laundry Company case. A license was issued because Jonathan West ran into a wagon of the Swiss Laundry Company and a legal controversy was the result. These are the first licenses of which the National Automobile Chamber of Commerce has record.

Q. Would gasoline as a wash hurt the body paint on a car? E. E. H

A. It is not advisable to use gasoline as a cleanser on an automobile finish unless you are at-

temping to remove some grease or dirt that can not be removed by clear water and pure soap. Gasoline will tend to dull the finish of the automobile.

Q. Who has the authority to determine the colors for automobile license plates? A. M. E.

A. The Motor Vehicle Commissioners of the individual States determine the color of the automobile number plates.

Q. Why do chains drag on the ground on gasoline trucks? G. S.

A. The chain is used to free the truck from static. Static electricity collects on moving objects and on objects subjected to friction. Considerable friction is caused by filling and emptying the tanks of the truck. The dragging chain grounds any electricity thus generated.

Q. Will an automobile tire gain pressure on a long drive on a hot day? A. O. B.

A. As the air in the tire is heated, the tire will gain pressure.

Q. How is an automobile polish made? M. B.

A. A mixture of equal parts of boiled linseed oil and turpentine, applied sparingly with a soft cloth and rubbed until dry, is an acceptable polish for automobiles. Most of the formulas for the polishes on the market are trade secrets.

Q. Should chains on the tires of automobiles fit tightly? J. G. R.

A. The Automobile Road Book says that chains should not be too tight. They should be allowed to creep.

Q. In what way is a cut-out a help to an automobile? G. C, M.

A. It aids in taking back pressure off the cylinders on grades and hills.

Q. Why are the springs on the front axles of an automobile a little longer back of the axles than they are in front of them? M. A.

A. It is in order to provide greater flexibility of the spring without unduly prolonging the frame at the front end, or setting the axle further back and so shortening the wheel base.

Q. What is the best thing to use to clean the varnish surfaces of an automobile? D. D. D.

A. Popular Science Monthly says that cool, clean water, a sponge and chamois are the best weapons with which to combat deterioration. Soak off the mud and dirt with a gentle stream of water from a hose without a nozzle. Then sponge with clean water, and dry with chamois. Wet the chamois thoroughly and wring dry before using. Do not wash car while it stands in bright sunshine.

Q. What proportion of air is there to gas in an automobile cylinder in propelling the vehicle? K. S. H.

A. The proportion of air to gasoline is 1,300 or 1,400 to 1. In other words, for an example, the proportions would be a thimble full of gasoline to an ash can of air.

Q. Is it true that the front wheels of automobiles toe in slightly? M. H. G.

A. The front wheels of automobiles are adjusted so that they have a very slight angle. This is known as cambering, and is done to make steering easier. It makes the center line of spindle bolt coincide as near as is practical with center of contact of tire with the ground. The slant is usually not more than two degrees or about 2 3-8 inches for 34-inch wheels.

Q. Is it possible for an automobile to run across the country without a driver, controlled by electricity at some station? H. V. M.

A. The American Institute of Electrical Engineers says "As far as we know successful tests have

been made on the operation of automobiles, torpedo planes, and motor boats, controlling them entirely by electricity from a distant station. Just over what distance these tests were made we are unable to say, but believe that a trip across the entire country would be out of the question at the present time for several reasons, the principal of which probably would be due to interference."

Q. What will remove tar from automobile fenders? We picked it up on the road, and it has dried on. B. D. L.

A. Equal parts of turpentine and wood alcohol will probably remove it.

Q. What is the momentum or impact force of an ordinary automobile traveling at average speed? R. R.

A. The momentum of a 3,000 pound auto traveling 30 miles an hour is 132,000 units. This may be understood by a comparison with a cannon which, hurling a 12-pound projectile at a velocity of 1,500 feet a second, imparts to the projectile a momentum of 18,000 units. A 50-pound shell, fired at a velocity of 3,000 feet per second, would represent less momentum than a 3,500 pound automobile traveling 15 miles an hour. These computations were made by the American Motorist.

Q. When was a fan first used on an automobile to cool the engine? F. R. H.

A. The National Automobile Chamber of Commerce says that the first record it has of a fan being used on an automobile for cooling the engine is a Daimler car with a fly wheel fan. This was prior to the year 1898.

Q. Why is lubricating oil in an automobile changed? J. E. S.

A. Usually the lubricating oil of an engine is changed when its viscosity has decreased due to dilution with unburned gasoline to such a value as to render it inadequate to prevent metal-to-metal contact.

Q. Is it true that there is a hill near Los Angeles where automobiles run up with the power off? S. B.

A. The Los Angeles Chamber of Commerce says that the grade at the Magnetic Hill near Hollywood is an optical delusion. While it appears that it is an upgrade it is in reality a two per cent down grade. Such cases of deceptive grades are common in mountainous country. Irrigation ditches viewed from a distance sometimes appear to run up hill.

Q. How many parts are there in the average automobile? J. P.

A. It may be said that there are from 2,400 to 2,500 parts in the average touring car.

Q. What proportion of the automobile accidents are caused by men driving commercial vehicles? F. R. F.

A. C. W. Price stated in a safety campaign that drivers of commercial vehicles are responsible for approximately half of all motor vehicle accidents.

Q. What per cent of the world production of passenger cars and trucks is in the United States? M. O.

A. In 1925 the United States had 87.5 per cent of the total world production, Canada 3.5 per cent, and other countries 9 per cent.

Q. How many people take automobile trips in one year? N. J.

A. The American Automobile Association says that a survey of tourist camp data leads to the conclusion that 12,000,000 people in 3,000,000 cars took trips averaging 33 days in 1925.

Q. What is the cost to the country of license plates on motor vehicles? R. M.

A. There are no statistics that would show the exact cost of license tags to the individual States. The Automobile License Division of the District of Columbia says that their tags cost about 13.4 cents in duplicate.

Q. What percentage of automobiles meets with accidents? F. M. H.

A. The National Automobile Safety Council says that one out of every 34 automobiles suffers with some kind of accident each year. The majority of accidents are due to motorists using one hand when driving, to poor vision, and to smoking when at the wheel.

Q. What is an orphan car? C. A. C.

A. The term orphan is applied to automobiles that are no longer being manufactured.

Q. How can cup grease for automobiles be made? G. W. S.

A. Cup grease for automobiles is made from petroleum, which is crude vaseline. If you wish the grease to adhere, combine the vaseline with wax. If you do not want it to adhere, combine it with paraffin.

Q. Are the automobiles used in Europe about the same as the ones seen in America? A. T. A.

A. For the most part smaller, lighter cars are used abroad, since gasoline is much more expensive. The high priced cars are often larger, heavier and handsomer than the ones seen in America.

Q. Should an automobile be revarnished in the winter time? F. H.

A. Varnishing should not be done with temperature below 70 degrees Fahrenheit.

Q. What were the first 10 cars manufactured in the United States? E. M. E.

A. Not until early in the twentieth century were there 10 or more gasoline automobiles on the market in the United States. These were the Duryea, Ford, Franklin, Haynes, Knox, Olds, Packard, Pierce Arrow, Stearns, Thomas, and Winton. They are not given in order of their appearance as this is a matter of controversy.

Q. What method is used to determine the license numbers given each county? H. J. H.

A. The American Automobile Association says that the States vary in regard to the method used to determine the automobile license number. In some States the counties are required to send in an estimate before the end of the year and then are allotted a certain number or amount by the State Highway Commission. Other States do not allot a certain number, but licenses are obtained from the State Highway Commission at the State Capitol.

Q. Is there any appreciable difference in the amount of energy expended in pumping up an auto tire by hand, if the weight of the machine is resting on the ground or if the wheel is jacked up? H. E. H.

A. If the wheel is off the ground the energy expended will be considerably less than when the tire is resting on the ground.

Q. Can you tell me about the French experiment with charcoal gas as motor fuel? W. F. G.

A. That charcoal gas can be used effectively as a substitute for gasoline in motor vehicles was demonstrated recently by the French government in a 1,500 mile endurance test for cars using this new form of fuel. It was found that a motor-truck burning charcoal and using the gases of combustion in its cylinders, costs less than one-fourth as much to operate as a similar truck burning gas.

Q. How many automobiles have been manufactured in this country? C. A. S.

A. The American automotive industry has produced and marketed almost 30,000,000, more than 80 per cent of this production having been turned out in the last decade.

Q. Is the sale of closed cars increasing? C. D.

A. There are no figures available for the sales of cars. The production figures are quite close to them, however. In 1924, 48.6 per cent of the output was closed cars, while in 1925, 70 per cent of the output was closed.

Q. How many automobiles are there in the world? D. O. C.

A. On January 1, 1926, the world registration was 25,973,928. Of these, 20,799,151 were passenger cars.

Q. How much of the copper used does the automobile industry take? C. A. W.

A. It uses approximately 7½ per cent of the copper consumed in this country.

Q. How much has the annual output of automobiles increased in 10 years? G. S. S.

A. In 1915, there were 892,618 cars manufactured in the United States. In 1925, the number was 4,325,000.

Q. Why do the automobiles with Florida licenses have a big letter C on them? T. J. B.

A. The letter C on the Florida auto license tag merely indicates that it was issued for a motor vehicle in the passenger car class. The Florida license tags have serial letters such as C, G, etc., indicating the motor vehicle on which it is placed as a passenger car, truck, motorcycle, etc.

Q. What number of cylinders are used in racing cars? B. J. M.

A. Four cylinder motors are used in racing cars more frequently than engines with greater number of cylinders, because of their reliability and simplicity. Six and eight cylinders have been used in racing cars, but not so often as four cylinders.

Q. What effect does 500 miles of travel have on the oil in the crank case? M. H. W.

A. The Bureau of Standards says what happens to a lubricating oil during 500 miles of service is, from a quantitative point of view, largely a matter of the operating conditions. In general, however, the oil is contaminated by road dust, which is drawn in through the carburetor, by carbon from the combustion space, by water resulting from the combustion, and by the unburned portions of the fuel which are taken up by the oil film on the cylinder walls and eventually reach the crankcase.

Q. How did the Fiat Automobile get its name? N. F.

A. F.I.A.T. as the name of the car was originally written at the time of the organization of the company, represented Fabrica Italiana Automobile Torino, which, in plain English, means Italian Automobile Factory at Turin. Custom soon ignored the pronunciation of the separate letters and called the automobile simply Fiat so that finally the directors of the company abandoned the periods between the letters.

Q. Who conceived the idea of putting chains on automobiles to keep them from skidding? B. F.

A. Non-skid chains for automobiles were invented by Charles Algernon Parsons, English inventor and shipbuilder.

Q. How much tax do the various States collect from automobilists? A. D. N.

A. Taxes collected from car owners by the States in 1925 aggregated $406,648,561, of which $146,028,789 was the gasoline tax.

Q. Do more service stations for automobiles use machine equip-

ment or more depend upon hand tools? M. M.

A. About 48 per cent have machine equipment, while 52 per cent use hand tools only.

Q. What is the average per cent of power obtained from gasoline in automobile motors? A. B.

A. The Bureau of Standards says the present-day automobile engine is capable of utilizing from 20 to 30 per cent of the power in gasoline. On the average about half this is obtained and it has been estimated that the efficiency of the average motor car could be improved 30 per cent by better carburetor adjustment alone. Even if the efficiency of the average automobile engine is only 10 per cent this compares very favorably with the locomotive, which turns into useful work only 5 per cent of the chemical energy in the coal which it consumes.

Q. What is the procedure when taking an automobile into Canada for a trip? M. J. N.

A. You have to register when crossing the Canadian line. It is necessary to take your United States registration card with you to prove to the authorities that you are the owner of the car. The authorities will give you a touring permit which is good for 30 days. Upon leaving Canada the permit is forfeited at the United States-Canadian line. If you stay more than 30 days a bond is placed on the car according to its value.

Q. If I buy an automobile in August will it be this year's model or next year's? R. D. P.

A. It might be either. Cars which are actually manufactured in the latter part of the year are often termed models of the coming year.

Q. Is our export trade in automobiles increasing? T. W.

A. Outstanding among the development of 1925 is the fact that countries abroad bought more than a half million motor vehicles, a gain of 39 per cent over 1924.

Q. Are New York State automobile license plates made in a prison? R. E. L.

A. The Bureau of Motor Vehicles of the State of New York says that all New York plates are made at Auburn Prison.

Q. On rainy days my windshield becomes covered with a thick mist, making it impossible for me to see clearly. What will overcome this? A. R. U.

A. Rub a sliced onion over the glass with an up and down stroke. Be sure to coat the entire surface of the glass with the juice of the onion.

Q. Which of the principal countries of Europe has the largest number of automobiles and the largest increase? L. L. F.

A. Registered motor vehicles in Germany total 216,220, 65 per cent increase; United Kingdom, 208,155, 15.8 per cent increase; France, 178,000, 26 per cent increase.

Q. What can be put in the transmission of an automobile or tractor that will deaden the noise, but will not injure the gears? R. S.

A. Pulverized cork may be used to deaden the noise. One quart is sufficient to use.

Q. How much alcohol should I put in the radiator of my car in winter? C. S. A.

A. Using denatured alcohol, not wood alcohol, a 20 per cent solution —a little over three-quarters of a pint of alcohol in each gallon of solution, will withstand a temperature of 15 degrees above zero, Fahrenheit. A 25 per cent solution, one quart of alcohol in each gallon of solution, will withstand a temperature of zero, and will be found sufficient in most parts of the country. A 40 per cent solution, three and three-quarters pints of alcohol per gallon of mixture, will give safety at 25 degrees below zero.

IX

BEVERAGES

Q. When was bootlegging first known in this country? C. A. G.

A. Conflict between private makers of whiskey and the Government began with the passage of the Alexander Hamilton Excise Law in 1791. This led to the Whiskey Rebellion in 1794, when it was demonstrated that organized public opposition to the law was futile and such distillers began to resort to secrecy and evasion.

Q. What is or was the largest wine cask in the world? S. N. H.

A. The famous copper tun kept in the cellar of Heidelberg Castle is said to have been the largest wine cask in the world, being 36 feet in length, 26 feet in diameter and capable of holding 49,000 gallons.

Q. Is coffee native to Brazil? F. E. N.

A. It is not native to South America. It is supposed to have grown first in Abyssinia, although it was early found in Arabia. Brazil, however, now furnishes more than two-thirds of the coffee consumed in the world. As an article of diet, it was unknown to the Greeks and Romans — it was not introduced into Europe until the 16th century.

Q. How long can milk, tea and coffee be kept safely in a thermos bottle? C. P.

A. All thermos bottles are not packed in the same way. For this reason milk will not keep in all bottles the same length of time. If the packing is good, the milk should keep about as long as it does in a refrigerator. The tea and coffee will keep as long as the thermos bottle holds the temperature.

Q. Who were the first coffee drinkers? H. T. T.

A. There are many stories as to who first discovered the food value of coffee. In Europe this important discovery is usually accredited to the inmates of an old monastery in Arabia who had observed that their goats after browsing upon the coffee berries were decidedly lively. They decided to taste the berries to see if they too would be similarly affected. First they chewed the berries but were disappointed in the taste. Then they boiled them but without success. Then they tried roasting them and found this gave a delightful flavor. Later a monk brewed a stimulating drink by pounding the roasted berries in a mortar.

Q. Where does mocha coffee come from? G. McG.

A. Mocha coffee comes from Arabia, and is known by its small gray beans inclining to greenish.

Q. Why are teas called Pekoe and Oolong? M. M.

A. These words are corruptions of local Chinese terms, Pekoe comes from pak-ho meaning white hair and refers to the down on the young leaves. Oolong comes from ou-long meaning black dragon, and refers to the black leaves mixed with those of greenish yellow.

Q. Is maté an intoxicating drink? E. L. D.

A. Maté is a non-intoxicant, sometimes known as Paraguay tea and is prepared from the leaves and shoots of the mate tree. This is the South American holly.

Q. Where is the coffee buying center of the United States? A. N. R.

A. The chief cities are New York City and New Orleans.

Q. What is meant by saying a wine is dry? K. C. V.

A. Wines are referred to as dry when completely fermented, only 0.1 per cent of sugar remaining.

Q. How much pop and ginger ale do Americans drink each year?

A. About 4,000,000,000 bottles of soft drinks are consumed here yearly.

Q. What is the origin of the word punch as applied to beverages? M. N.

A. The vogue of mixing wine or water, lemon juice, sugar, spice and water was brought to England from India and it seems to be named from the Hindu word punch, meaning five, referring to the usual number of ingredients.

Q. Is it possible to grow tea in any part of the United States? O. I. G.

A. The Department of Agriculture established a small tea-growing plantation near Summerville, S. C., in 1880, and experiments have also been made in Texas. While it was found possible to grow good teas and cure them satisfactorily it was apparently impossible to produce them in competition with the teas of China and Japan, cured by cheap Oriental labor.

Q. Why is whiskey called John Barleycorn? G. W. Mc.

A. The name John Barleycorn used as a personification of malt liquor is derived from an English tract of old date entitled The Arraigning and Indicting of Sir John Barleycorn Knt. printed for Timothy Tosspot. Sir John Barleycorn appears as a person in a number of similar ballads by John Burns.

Q. Has the legal whiskey trade with Canada increased or decreased since prohibition? D. B. S.

A. The Dominion Bureau of Statistics says that Canada had exported 298,813 gallons of whiskey to the United States in 1924. The whiskey was valued at $4,700,000. The whiskey trade with the United States has grown, as in the preceeding twelve months only 144,184 gallons of whiskey went across the border. In addition, large quantities of ale and beer went from Canada to the United States. This official statement ignores the illicit trade.

Q. What materials are used to adulterate ground coffee? C. D.

A. The following substitutes for coffee have been identified: roasted peas, beans, wheat, rye, oats, chicory, brown bread, pilot bread, red slate, bark, dried pellets. The latter consists of ground peas, pea hulls, and cereals held together with molasses.

Q. Did the ancient Romans drink beer? S. N.

A. Pliny, who is the earliest writer to mention beer, describes it as scorned by the Roman citizens who looked down upon it as fit only for barbarians and he thought it "a more sinful drink than wine."

Q. From what country do we get our coffee? B. E. G.

A. Brazil furnishes two-thirds of the world's supply of coffee. Nearly three-fourths of this amount is consumed in the United States.

Q. How much loss is there in weight when coffee is roasted? B. E.

A. All About Coffee says there is a shrinkage of green coffee after roasting of about 16 per cent in weight. The coffee expands slightly in size.

Q. How can chicory be detected if used as an adulterant for coffee? Does chicory contain caffeine? O. P.

A. Chicory is void of caffeine. The addition of chicory may be detected by adding cold water to the supposed coffee. If chicory is present, the liquid will be quickly discolored, and chicory will sink. Pure coffee will float.

Q. Does more than one kind of tea grow on a bush? A. T. F.

A. Four varieties of tea can be picked from the same bush, Pekoe from the very young leaves — Souchong from the smallest — and Oolong and Congo from different grades of the same leaf—and the leaves picked early in the morning have a better flavor than those picked later in the day.

Q. When was the cocktail invented as a drink and who named it? N. W. S.

A. The origin of the term cocktail is not known. The drink is supposed to have been invented by Elizabeth Flanagan who was the widow of an Irish soldier who fell in the service of his country. She appears, after his death, to have been a sutler and in that capacity to have followed a troop of Virginia horsemen under the command of Col. Burr. She took up quarters in the winter of 1779 in a place called Four Corners. Here she set up an hotel and it was in that hotel that the drink that is known as the cocktail was invented.

Q. How much coffee is used yearly in the United States? E. H.

A. The annual consumption of coffee in the United States is about 1,000,000,000 pounds. The annual consumption per capita is over nine pounds per year.

Q. Why are coffees blended? W. E. S.

A. Coffee blending is done by coffee dealers to produce various desired flavors in keeping with the cost of the product. The flavor of coffee is characteristic of the type, being more or less affected by the place of production, method of collecting, curing, shipping, and sorting the crude product, and furthermore by the extent of the roasting of the beans and methods of preparation of the beverage. Blending can be done in almost all cases to suit the individual taste.

Q. Why is Moselle wine so-named? R. W.

A. It is named for the valley of the Moselle River, in which the grapes are grown from which these delicate aromatic wines are made.

Q. Please give names of some scented teas. H. M. S.

A. The Tea Investigation Section of the Department of Agriculture says that two popular scented teas are China jasmine and scented orange Pekoe.

Q. When was tea first used as a beverage? H. B. C.

A. According to a Chinese legend it was discovered by the Emperor Chinnung, 2737 B. C. From China it was carried into Japan and finally reached Europe through the Dutch.

Q. Is it true that the Chinese eat the tea leaves and throw away the liquid? C. E. D.

A. As a generalization this is not true. But there is a virgin tea called Lung-Soo, meaning dragon's whiskers, which the Chinese use in making tea and the leaves of which they eat as a salad.

Q. From what is grenadine made? E. B. McG.

A. It is made from the pomegranate. The juice, when cooked with an equal amount of sugar, produces a beautiful red-colored

syrup which is greatly improved by the addition of a little lemon syrup. This serves to bring out the aromatic flavor and increase the acidity. A syrup of this nature constituted the original grenadine syrup, much used in Europe in the preparation of soft drinks.

Q. Is there an intoxicating liquor called bangue? R. M.

A. In the Orient there is an intoxicant made from the dried leaves of Indian hemp which is known as bangue or bang.

Q. When does cider change to vinegar? M. H. B.

A. When the percentage of alcohol in cider reaches nine, the ferment of acetic acid begins to work, and it soon changes to vinegar.

Q. How much tea is drunk in the United States? M. S.

A. This can be estimated from the net importation. In the fiscal year ending June 30, 1926, 98,551,-814 pounds were imported, of which 457,537 pounds were rejected. They were rejected as below our standard in quality, not for impurities, and this amount was less than one-half of one per cent of the importation. This quantity of tea would supply 98,000,000 of our inhabitants with a pound of tea a year. Since this number would have to include many children it is reasonable to suppose that the number of tea drinkers is less than 98,000,000 and the per capita consumption more than a pound a piece.

Q. What will keep cider sweet? J. D.

A. Apple cider may be kept from becoming hard by adding one tenth of one per cent of benzoate of soda. If the cider is to be sold, the benzoate of soda content must be declared upon the label.

Q. Why is some tea green and some black? D. P. M.

A. The same kind of tea leaves can be used for the manufacture of either green or black tea, the difference of the two teas lying merely in the process of curing. Yet some varieties of tea leaves are better adapted than others for making certain kinds of tea. In producing green tea the leaves are sterilized by steam. This prevents oxidizing or fermentation of the leaf which retains its green color and when boiling water is poured over it the result is green or greenish-yellow liquid. In manufacturing black tea the leaf is allowed to ferment which changes its color from green to very dark brown. In the case of oolong, or semi-fermented tea, the fermentation is allowed to reach a certain desired point.

Q. How much wine is drunk in France? C. F.

A. In 1925 more than a billion gallons were consumed.

Q. Should strong tea be made by letting it steep longer than weak tea? R. J. McC.

A. Tea should never stand for more than three minutes after the freshly boiled water has been poured over the leaves. Regulate its strength by the amount of tea leaves used. In three minutes or less, the leaves give up all their flavor, aroma, and caffeine. After three minutes the leaves begin to give up their tannin.

Q. When was beer first made? A. S. L.

A. The manufacture of ale or beer was known to the Egyptians. Herodotus ascribes its invention to Isis and says that the liquor, called zuthos, was fermented from barley.

Q. Is tea a nutritious beverage? A. R. L.

A. Tea is not a food. It neither builds up tissues nor supplies them with potential energy.

Q. Kindly advise me, if possible, the number of cups of tea that

Samuel Johnson, the lexicographer, was reputed to have drunk per day. A. C. S.

A. We do not find that Samuel Johnson was accustomed to drinking any specified number of cups of tea during the day, though it is well known that he was an inveterate tea drinker. Sir John Reynolds once reminded Johnson that he had drunk eleven cups at one tea time. Lord Eldon said his wife had helped him one evening to fifteen cups. Lady Macleod reported sixteen cups, while Cumberland raised the number to twenty-five.

Q. What makes soft drinks effervescent? A. B.

A. The property of effervescence is due to the impregnation under pressure of the mixture of water, syrup and flavor with carbon dioxide gas. The raw materials used in the manufacture of this gas are not present in the bottled drink. Only the gas is used, and is a wholesome product, identical with the carbon dioxide found in many mineral springs.

Q. Why do some people call whiskey hooch? W. H. O.

A. Hoocheno—or Kootznahoo—was a spirituous liquor concocted by natives of Alaska. It was named after an Indian tribe and the word contracted into hooch. The term was afterwards used as a synonym for ardent spirits.

Q. Why do some people have trouble in sleeping after drinking coffee at night? A. V. G.

A. Coffee owes its well-known stimulating action to the presence of the alkaloid caffeine. This substance has a diuretic action upon the kidneys and raises blood pressure. This influence upon blood pressure is probably the reason sleepiness may be prevented by partaking of coffee. Muscular energy is augmented and the sense of fatigue dissipated by the use of this stimulant.

Q. What is lemon squash? H. D. G.

A. Lemon squash is the term used in England for lemonade.

Q. How long will champagne keep? A. M. T.

A. Champagne, when well made and properly stored in cool cellars, will retain its good qualities from 10 to 20 years.

Q. What causes the sparkle in champagne? L. M.

A. The sparkle is due to imperfect fermentation. Champagne contains an amount of carbonic acid gas generated through insensible fermentation in the bottle.

Q. What is the food value of beer? T. R.

A. Beer contains about 4 per cent of nutritive material. Flour, for sake of comparison, has about 88 per cent.

Q. What will prevent a scum's forming on cocoa and chocolate? H. A.

A. Beating it with an egg-beater before it has reached a heat that forms a scum will cover the liquid with a foam and thus prevent the forming of scum.

Q. When were intoxicating drinks first made? J. H.

A. Intoxicating drinks made from honey, barley, and grapes were known at least 1000 years B. C. and they may have been known 5000 or 10,000 years B. C.

Q. Which is more harmful, a glass of beer or a cup of coffee? H. G.

A. The Bureau of Chemistry says that it is difficult to compare the harmfulness of one beverage with another because of the widely different effects beverages have on different people. It says that some people seem to have an idiocrasy which will result in making one substance more harmful to them than another.

X

BIRDS

Q. Which has the better eyesight, a bird or a human being? J. R. McM.

A. The power of vision attains its highest development among birds, which possess both the keenest and the most far-sighted vision.

Q. What birds have the greatest wing power? R. E.

A. This question has not been definitely determined, but in proportion to their size, their bodies being extremely small, the wings of man-of-war hawks, or frigate birds, are longer than in other birds and have an extent of seven feet or more.

Q. What bird migrates the farthest distance? R. D.

A. The land bird with the longest migration route is probably the nighthawk, which occurs north to Yukon and south, 7,000 miles away, to Argentina. This distance is surpassed by some waterbirds and shorebirds, many of which travel more than 8,000 miles when migrating.

Q. How can I determine whether a bird is a pest? K. L. F.

A. The only sure way is to kill one of the species under suspicion and have the contents of the stomach examined. This must be done under Federal and State permits.

Q. How many birds are there to an acre in the United States? H. M. B.

A. There are in the United States only about two birds to the acre.

Q. Do snakes charm birds? R. W.

A. Snakes do not charm birds in the understood sense of the word charm. The instinctive fear that a small bird or animal, such as a rabbit, has for a snake paralyzes the muscles of the bird or the animal and prevents its escape from the snake.

Q. Why does the woodpecker peck? H. W. C.

A. A woodpecker pecks in order to dig out a nest and to obtain food. When he drums, however, it is either for pleasure or it serves as a call to birds of the same species.

Q. Will American wild song birds breed in captivity? J. R.

A. It is very difficult to induce the American wild song bird to breed in captivity; furthermore, in most States it is against the law to have wild birds in possession.

Q. Do wild geese live to be over a hundred years old? H. H.

A. It is difficult to prove that wild geese are sometimes centenarians, but an authentic case is known of two Canada geese captured in 1855 in Chesapeake Bay that were still living in 1923.

Q. How can a parrot be taught to talk? A. G.

A. The Bureau of Biological Survey says no hard and fast rule can be laid down for teaching a bird to talk. This is entirely a matter of patience and perseverance in dealing with the bird. At

first, the bird should be kept in a room by itself and the cage covered on three sides. Do not talk to the bird except in repeating simple phrases over and over again. Only one phrase should be used in a single day in the early training. Gradually work up until several phrases are repeated over and over to the bird each day.

Q. How long do eagles live? J. H.

A. Some species of eagles have been known to live 100 years. From records kept by the Zoological Societies of London, it is shown that several specimens in captivity lived to be 42, 46, and 55 years of age.

Q. What is the difference between a dove and a pigeon? G. T. D.

A. No scientific distinction separates pigeons from doves, but the latter term is usually used with reference to smaller forms of this group such as the turtle, ring, ground, and scaled doves.

Q. How much does an eagle's nest weigh? N. S.

A. The National Zoological Park says that the bald or golden eagle's nest weighs from 10 to 12 pounds, and that of the harpy eagle approximately 14 pounds. As a rule such nests are about 3 feet across and one foot high consisting of loosely woven sticks.

Q. Do birds sing the year around? D. McK.

A. Wild birds do not sing more than eight or ten weeks in the year.

Q. What makes a bird stay in the air? A. V. R.

A. The manipulation of birds' wings has been analyzed to a certain degree by an ultra-rapid camera invented by C. Francis Jenkins of Washington. Mr. Jenkins has shown the exact motions of a pigeon's wings. His pictures demonstrate that the back stroke, when the wings touch over the head, propels the bird, while the forward stroke, when the wings meet under the body, sustains the pigeon in the air.

Q. Are falcons long-lived birds? J. J.

A. Falcons attain to a great age. One is said to have been found in France about 1790 with a collar of gold dated 1610, showing it to have belonged to James I of England.

Q. Are there any birds that have teeth? R. E.

A. No species of birds now living are provided with teeth.

Q. How does a buzzard sail against the wind without flapping its wings? A. D.

A. The buzzard is able by more or less imperceptible movements of different parts of the wings, to take advantage of minor air currents.

Q. Is the normal temperature of birds higher than that of man? K. G. M.

A. The average temperature in man is about 98 degrees Fahrenheit. Many birds which are constantly in motion have higher temperature—from 100 degrees to 113 degrees Fahrenheit. Swallows and quick-flighted birds have higher than fowls that stay near the ground.

Q. For short distances, what bird flies the fastest? W. N.

A. The humming bird is the swiftest in short flights.

Q. What is the most valuable owl to farmers? A. M. M.

A. The barn owl is generally so regarded because it lives almost entirely upon the small rodents so injurious to crops. This is said to be especially true in the South, where it subsists on the cotton rat and the many harmful mice, and in the West, where it catches gophers, ground-squirrels, and rabbits.

Q. How many kinds of birds in this country have singing voices? H. McC.

A. There are one hundred different species of singing birds in the United States. Most of the States have laws forbidding them to be caged.

Q. What kind of a parrot learns to talk most readily? B. F.

A. The grey parrot of Western Africa is best adapted to training as a talker.

Q. What birds besides parrots can talk? L. M. M.

A. Among talking birds are the cockatoo, cockatiel, lory, parrakeet, turquoisine, love-bird, kea, lorikeet, macaw, conure, amazon, and electus.

Q. What is the largest bird? L. C.

A. The ostrich is the largest of living birds, an adult male standing nearly 8 feet high, and weighing about 300 pounds.

Q. How long do the ordinary birds live? E. R. S.

A. The average length of life of small common birds, such as a robin, is from 10 to 15 years.

Q. How many species of birds are there? H. B. W.

A. The Biological Survey says that there are 800 species of birds and 1,200 sub-species.

Q. Which is the smallest bird in the world? E. T. S.

A. There are two species of humming birds which are nearly the same size—they are found in parts of Costa Rica and the West Indies. Helena's Humming Bird, however, is considered the smallest of the two. It is found in Costa Rica.

Q. What are the three fastest flying birds? H. A. D.

A. The American Shotgun gives the following table of flights of birds: Canvasback duck—130 to 160 feet per second, average 145: Greenwing teal—100 to 130 feet per second, average 115; and Bluewing teal—120 to 140 feet per second, average 130.

Q. I have a canary which seems to be healthy but will not sing. What can be done about it? J. E. M.

A. As no disease seems to be apparent, it is suggested that you take it to a canary dealer where the bird can hear other birds singing. Frequently this has been known to restore the song.

Q. What birds build the most beautiful nests? B. C. C.

A. Humming birds build the most delicate and beautiful nests known, while the most remarkable nests are those of the American orioles and of the weaver birds of Africa and the East Indies.

Q. Suggest some good way to poison or trap crows. W. G. T.

A. The Bureau of Biological Survey does not advocate the poisoning of crows for the reason that the placing of such poison is apt to destroy birds that are more useful to agriculture than the crow is harmful. The same applies to trapping. Crows should be shot. To protect young chicks from being attacked by crows, plenty of bushes should be placed in the poultry yard so that the young chickens can run quickly to cover.

Q. How do carrier pigeons determine the direction home when they apparently have nothing to guide them? G. B. S.

A. There is a great difference of opinion on this subject. Some scientists think it is purely a matter of instinct, while others think it is a combination of keen eyesight and instinct.

Q. Has the mocking bird a sweeter song than the nightingale? F. F.

A. Audubon says that this bird is far superior to the nightingale. Its song is not mere imitation, but is composition and creation. The mocking bird has been known to change its tune 87 times in seven minutes.

Q. Do humming birds live on the nectar of flowers? L. L.

A. This substance does form an important part of their food, but they do eat insects and spiders, also.

Q. What birds are mentioned in the Bible? N. T. L.

A. The species mentioned are: osprey, ossifrage, ostrich, partridge, peacock, pelican, pigeon, quail, raven, sparrow, stork, swallow, swan, swift, turtledove, vulture, bittern, cock, cormorant, crane, crow, cuckoo, dove, eagle, gier, fowl, glede, hawk, night hawk, heron, hoopoe, ikith, lapwing, owl, great owl, little own, owl of the desert and screech owl.

Q. What makes a humming bird hum? How large is this bird without its feathers? R. R.

A. The humming bird has powerful muscles which drive the wings in rapid vibrations. These vibrations cause the humming sound. Most of the Hummers have no song, their only notes being querulous squeaks of wrath or fear. A few of the tropical forms, nevertheless, are said to be slightly musical. The humming bird is the smallest of birds, and when stripped of its feathers is not larger than a bumblebee.

Q. Which of the birds and animals are polygamous and which monogamous? J. R. H. W.

A. The polygamous birds are the gallinaceous birds, such as the turkey, grouse, etc. These birds seek new mates each season. The polygamous animals are mainly the badger and horned animals such as the deer, elk, sheep, goat, etc. The monogamous birds are such as the hawk, owl, eagle, and geese. Most of the animals in North America not mentioned are monogamous.

Q. What are love birds? J. B. G.

A. This is a popular name given to many diminutive parrots of various genera and even of different families. They receive their name on account of the affection which they display toward each other both in a wild state and when confined in cages.

Q. Did canaries really come from the Canary Islands? L. L.

A. The actual origin of the canary as a cage bird is obscure. It seems probable that captive canaries were first secured from the Canary Islands, but it is doubtful that this stock has furnished ancestors of all our birds of this kind. The serin finch of middle and southern Europe is so similar that it may often have been captured and accepted as a canary, and interbred until all distinguishable differences were lost.

Q. Are there white blackbirds? M. F.

A. White blackbirds, which are albinos, are occasionally found. There are also found white robins, crows, hawks, and wild ducks.

Q. Can the bird of paradise raise its plumage as the peacock can? I. M. S.

A. These beautiful plumes are raised at will by the males in their efforts to attract the females during the courting season.

Q. What is the difference between extinct birds and fossil birds? T. D.

A. Various birds may be called extinct rather than fossil because their species have expired since the present geological era began, or in some cases since written records were kept.

XI

BOOKS

Q. How much does the average American spend on books? H. J.

A. It is estimated that each of the 120,000,000 people in the United States spends forty cents a year for books.

Q. What book has the widest sale? V. E. B.

A. The Bible is the world's best seller. An average of 30,000,000 copies are sold yearly or 80,000 each day.

Q. Is it true that more books have been written on Abraham Lincoln than any other man? R. M. L.

A. The Publisher's Weekly says that as far as American records of new book publications for the past 50 years is concerned, there is scarcely any doubt that more tomes have been written on Lincoln than on any other historical character, excepting Christ. Prior to 1870 Napoleon apparently held the record in this respect.

Q. What is the name of the book which caused the evolution trial in Dayton, Tennessee? F. A. K.

A. It is Hunter's Biology and is a textbook in use in the schools of Tennessee.

Q. When was a gazetteer first made? B. H.

A. The first geographical dictionary which is known is that of Stephen of Byzantium, who lived in the 6th century. Only an abridgement of it remains. The first modern gazetteer is the Dictionarium Historico-Geographicum, 1565, by Charles Stephens.

Q. When was the first Encyclopedia Brittanica published? T. McM.

A. This dictionary of arts, sciences, and general literature was first published in parts, at Edinburgh 1768-1771.

Q. How long did it take Noah Webster to compile his dictionary? M. E. R.

A. Noah Webster began his preparation for his American Dictionary of English language in 1807, and published it in 1828. Previous to 1807 he had published a speller and a Compendious Dictionary, both of which were probably helpful in the new undertaking. The American Dictionary contained 12,000 more words and about 40,000 more definitions than had appeared in any English dictionary published.

Q. What was Charles Dickens' first book? Was he married when it was published? H S.

A. Sketches by Boz appeared in two volumes the year before Queen Victoria's accession. On April 2, 1836, Charles Dickens was married. A few days before the marriage, and just two months after the publication of the Sketches, the first part of the Pickwick Papers was announced.

Q. What are the three things which are mentioned in Dear Brutus by J. M. Barrie, as the

things which a man can never recall? H. C. D.

A. The three things are the spoken word, the past life, and the neglected opportunity.

Q. When was the Sketch Book written? W. O. H.

A. Washington Irving wrote the Sketch Book during the years 1819-1820.

Q. Has the book Treasure Island any historical basis? T. W. B.

A. The story was written and read a chapter at a time for the entertainment of Stevenson's stepson, Lloyd Osbourne, then a 12 year old school boy, to relieve the tedium of a rainy vacation, and grew out of a map the author had drawn and labeled Treasure Island.

Q. Which of Dickens' novels contains the much quoted phrase "Barkis is willin'?" V. S.

A. Mr. Barkis is a bashful carrier in David Copperfield who marries Peggotty. He conveys his intentions to her by sending her a message by David that "Barkis is willin'."

Q. What is the difference between a novel and a novelette? E. D.

A. Primarily one of length. A novelette usually runs from 15,000 to 35,000 or even 40,000 words, while a novel is from 70,000 to 110,000.

Q. What is the Book of Good Counsel? G. E.

A. This is the subtitle of the Hitopadesa, a celebrated Sanskrit collection of fables, most of which have passed into the literature of all civilized countries.

Q. Is it true that the Wealth of Nations by Adam Smith, is regarded as the most important book ever written? P. N.

A. Opinions differ but it is so rated by Buckle, author of the History of Civilization in England. He said of it: "Looking at its ultimate results (it) is probably the most important book which has ever been written, and is certainly the most valuable contribution ever made by a single man toward establishing the principles on which government should be based."

Q. When was Hoyle first published? W. O. H.

A. Edmond Hoyle lived from 1672 to 1769. Little is known of his early life. It is thought that he was educated for the law. He lived in London for many years, where he taught games. In 1742 he published A Short Treatise on the Game of Whist, which went through many editions and became the world's authority. Other games have been added, until Hoyle has grown to mean a set of rules and includes many games that have been invented since Edmond Hoyle's death.

Q. Was the Diary of Samuel Pepys a work of fiction or was it a real diary? F. M.

A. Samuel Pepys' diary was a genuine chronicle of the daily life of the author from 1659 to 1669. Originally written in cipher, it was not published, and then but in part, until 1825. A full edition appeared in 1895.

Q. What was the hornbook? M. V.

A. This is an elementary school book in use in England down to the time of George II. It consisted of a single leaf on which was written the alphabet in large and small letters, the Roman numerals and the Lord's prayer.

Q. Who wrote the first book against slavery prepared in this country? R. G. H.

A. Lydia Maria Child. The book was called Appeal for that Class of Americans called Africans.

Q. Are Knut Hamsun's books available in other languages? D. B.

A. It is said that his works have been translated into seventeen languages.

Q. How long have dictionaries been in use? C. T.

A. The first dictionaries were used by the Assyrians and Babylonians to explain, not words, but signs. The oldest surviving dictionary, compiled by Appolonius of Alexandria, in Augustus' time, is a glossary of Homer's words.

Q. Was Vanity Fair considered a success at the time it was written? B. D.

A. At first, the opening chapters did not attract the public. Thackeray, who usually published his novels in serial form was then known, not as a distinguished novelist, but as a clever satirist and burlesquer.

Q. What books are known as the world's great Literary Bibles? A. D. D.

A. There are a few books so pre-eminent for content and style that they have been called The Literary Bibles. These are the Iliad and Odyssey of Homer, The Divine Comedy of Dante, the greater dramas of Shakespeare, and Goethe's Faust. Each of these embodies the ideals of a race, or an age, or a civilization.

Q. In Uncle Tom's Cabin the slave woman, Eliza, makes her escape by crossing a river on floating ice. Was there any incident in real life that served as a basis for that incident? N. H. H.

A. A slave named Eliza is said to have made her escape in that manner across the Ohio River, at or near Ripley, Ohio, where the Rev. John Rankin, a prominent abolitionist, lived.

Q. In The Lightning Conductor there is a reference to the steps leading from Capri to Anacapri. How many steps are there? A. E. P.

A. A flight of 538 stone steps lead up the face of the cliff to the little village of Anacapri.

Q. When was Bartlett's Quotations first published? M. S. S.

A. The first edition of Bartlett's Familiar Quotations was a small thin octavo, consisting of 295 pages. It was published in Cambridge, England, in 1855.

Q. What was the first American novel? R. R.

A. The Independent Chronicle in the issue of January 22, 1789, announced the publication of the first American novel, The Power of Sympathy, by Mrs. Sarah Wentworth Morton, alias Philenia.

Q. What is the oldest book known? R. S. D.

A. The Book of the Dead is probably the oldest book in the world. It consists of magical and religious texts which according to old Egyptian faith were designed to be a guide and protection for the dead in their wanderings through the lower world.

Q. Who was the author of The Babes in the Wood? C. E. S.

A. The authorship of The Children in the Wood or The Babes in the Wood is unknown, and the date uncertain; it appears in Stationera Register of 1595 and probably was written about that time.

Q. In what form is The Divine Comedy written? J. M. D.

A. The Divine Comedy by Dante is written in the form of epic poetry. A long narrative poem is thus classified.

Q. What is the name of the novel dealing with the trial of young Armstrong who was defended by Abraham Lincoln? J. D.

A. The novel called The Graysons by Edward Eggleston is based on Lincoln's Armstrong case.

Q. Through how many editions has Walton's Complete Angler passed? A. J. C.

A. About 200.

Q. Does the word Zend in connection with the Avesta or sacred books of the Parsees mean the language in which the books are written? H. S. M.

A. The word Zend actually, in the opinion of scholars, means translation or commentary but is commonly used to define the language which is akin to Sanskrit and the Afghan tongue.

Q. Is it known who was the original of Sophie Western in Tom Jones? M. R.

A. The wife of the author, Henry Fielding, was the original.

Q. How long has the mythology of the Norseland been printed in English? T. B. T.

A. Thomas Percy published in 1770 his translation of Mallet's Northern Antiquities. This made a new land of mythology accessible to the English reading public.

Q. In what order should the Leatherstocking Tales be read? A. R. S.

A. Dr. W. J. Long in his American Literature suggests that Cooper's novels should be read in the following sequence: Deerslayer; Last of the Mohicans; Pathfinder; Pioneer; Prairie.

Q. Who is the original of the leading character in The Star Rover by Jack London? R. G.

A. A prisoner in San Quentin named Morrell was the original. When he was a boy, he was a member of an outlaw gang in California. He was captured, and condemned to life imprisonment. Because he rebelled he was condemned to years of solitary imprisonment in a dark cell. For long periods he was placed in a jacket into which he was strapped as tightly as three men could lace him. Morrell found that while he was being tortured, he could hypnotise himself. His experiences were incorporated in Jack London's novel.

Q. What book was it that Madame de Lafayette wrote in the prison of Olmutz? A. A. B.

A. You refer evidently to the life of the Duchesse d'Ayen, which was recorded by Madame de Lafayette on the margins of a volume by Buffon. It was written with a toothpick and India ink.

Q. When was the first guide book written? T. W. H.

A. The author of Swiss Travel and Swiss Guide Books says that the first guide book was written by the Abbott of Thingor in Iceland about 1154. It was for the benefit of pilgrims crossing the Great Saint Bernard Pass. As long ago as 812 there was a shelter building on this pass.

Q. Wasn't Uncle Tom's Cabin originally published in a Washington newspaper? F. F.

A. Uncle Tom's Cabin first appeared in 1852 in the famous anti-slavery newspaper, the Washington National Era, which was established by Gamaliel Bailey in 1847.

Q. From what does Wells' novel Tono Bungay derive its title? L. A.

A. Tono Bungay is the name of a patent medicine, the wide advertising of which brought a fortune to the hero of the story.

Q. When was the first book on vital statistics written? F. F. G.

A. Such a book was written by an Englishman and published in London in 1662. He showed that there were more boys born than girls and that population could be estimated from the death rate.

Q. What can be done with books that become musty and mildewed? C. M. S.

A. Books that have lain long in a damp place and acquired a musty smell should be thoroughly aired and exposed to the sunlight for several days. This should arrest the odor. Mildew may be checked by brushing over the books with spirits of wine or a few drops of an essential oil, such as oil of cloves, applied with a soft cloth. The books should be dusted frequently.

Q. What are the names of Dumas' Three Guardsmen Series in the order in which they should be read? E. G. B.

A. The historical sequence is as follows: The Three Musketeers, which story commenced with 1625; Twenty Years After, which begins with the year 1645; and LeVicomte de Bragelonne, which begins with 1660.

Q. Is there extant a copy of the 1793 edition of Paine's Age of Reason? O. T. F.

A. The first part of this book appeared in the year which you mention, but no copy bearing this date can be found.

Q. Who was the "Professor of things-in-general in the University I know-not-where?" A. V. N.

A. Carlyle's Sartor Resartus has such a character—Herr Teufulsdrockh (Mr. Devil's Dirt).

Q. Are the History of the Indian Wars published in 1841 and Audubon's works still under copyright? A. L. B.

A. Any book published prior to 1870 is free to the public. This being so, the History of the Indian Wars, published in 1841 and the works of Audubon, the last of which appeared in 1854, are no longer protected by copyright.

Q. What are the Books of Buddha? E. R. T.

A. The sacred Books of Buddhism are: The Pitaka, containing the discourses of Buddha; the Dharma, setting forth the doctrines of ethics of the people; the Vinaya, containing the rules for the priests, and the various ceremonies. These books contain 1,200 pages and nearly 30,000,000 Chinese characters.

Q. How old is the story of Beauty and the Beast? C. Y. U.

A. It has been traced as far back as Straparola's Piacevolinotti of 1550.

Q. What are the names of the five towns referred to in Arnold Bennett's books? H. A. D.

A. They are Stoke, Burslem, Hanley, Tunstall and Longton.

Q. Who first published Departmental Ditties? D. G.

A. Kipling himself brought out the book.

Q. Did the character Mr. Micawber created by Charles Dickens really exist? I. L. T.

A. The character of Mr. Wilkins Micawber is said to be a portrayal of Dickens' father and Mrs. Micawber to represent his mother.

Q. Is The Spy by James Fenimore Cooper, a true story? S. A. P.

A. It gives the story of Harvey Birch, a spy employed by Washington in 1780 in Westchester County, New York.

Q. What is meant by publishers when they advertise a book as being 12 mo. in size? F. F. McC.

A. The abbreviation mo. used in connection with books is a suffix added to certain numerals to indicate the number of leaves made by folding a sheet of paper.

Q. What book has been called The Bible of the Romantic Reformation? A. R. D .

A. This name is applied to The Reliques of Ancient English Poetry.

Q. What is meant by the dots or marks under the author's name

in library books? J. T. S.

A. In compliance with a rule of the American Library Association, this mark is placed under the name to indicate that the name of the author of the book has been verified.

Q. When was the first English lexicon published? R. A. G.

A. Among the earliest so-called lexicons of the English language is Minshen's Guide to the Tongues published in 1617. The first English dictionary in the strict sense of the term, however, was the English Expositor of John Bullokar published in 1616. Perhaps the best known of the early dictionaries was Dr. Samuel Johnson's, 1755.

Q. Has Dickens' Christmas Carol been made shorter? P. H. H.

A. Originally this story contained 50,000 words. It has been cut down to 12,000.

Q. What are the Four Horsemen of the Apocalypse supposed to represent? N. S.

A. The Four Horsemen of the Apocalypse symbolize Pestilence, Death, War and Famine.

Q. Please settle a controversy by stating whether the characters in Main Street were taken from real life? O. H. M.

A. Sinclair Lewis says "they do not in any case represent real persons."

Q. What was the Devil's Bible? J. F. M.

A. Devil's Bible was the popular name of a manuscript Bible written on ass-skin. The name arose from a legend that the writing was the work of a man who by the Devil's help accomplished it in a few hours in order to save his life, but who in return became the slave of the Evil One.

Q. Why is it that The Mystery of Edwin Drood apparently ends in the middle of a chapter? A. C. B.

A. Charles Dickens was working on The Mystery of Edwin Drood on the evening before his sudden stroke, June 8, 1870. This accounts for its being unfinished.

Q. Where did the name The Lost Cause, as applied to the Confederacy, originate? L. W.

A. This phrase first became current as the title of a history of the Civil War by E. A. Pollard, published in 1886. It was used as an expressive designation for the purposes and aims which the southern people vainly sought to realize in the permanent establishment of the Confederate States of America.

Q. What book was it that General Washington said helped to win the Revolutionary War? F. S. H.

A. It was The Crisis by Thomas Paine. The first and most famous of the series appeared December 19, 1776.

Q. What was the first book printed in English? M. W. E.

A. The first book printed in the English language was the work of William Caxton, who in 1474, issued the Recuyell of the Historyes of Troy, a translation of Raoul de Fevre's work.

Q. When was Little Women written? B. H. K.

A. It was written in 1867, published in 1868, and sold to the number of 60,000 copies the first year.

Q. How long has the Almanach de Gotha been published? T. A.

A. It has appeared at Gotha since 1764, and contains information regarding reigning families and governments, finances, population, commerce, etc., of the different states throughout the world.

Q. Who was Captain Cuttle? C. D.

A. He was a character in Dickens' Dombey and Son. He was a retired merchant with a hook in place of a right hand.

Q. Was Swiss Family Robinson written before or after Robinson Crusoe? H. D. G.

A. It was published in 1813 while Robinson Crusoe was written in 1719. Swiss Family Robinson was inspired by the earlier book and was completed by the Swiss author, J. R. Wyss, whose father had started it.

Q. What are the best of Scott's novels? D. L.

A. Scott's works of this character are more accurately described as historical romances. Ivanhoe, the Talisman, and Quentin Durward are often ranked as the best of these.

Q. Who wrote the Widow Bedott Papers? I. M. C.

A. These humorous sketches which were originally published in Neal's Saturday Gazette, were written by Frances Miriam Whitcher.

Q. Has the great American novel ever been written? H. R.

A. Hawthorne's Scarlet Letter has been ranked as the first if not the only great American novel.

Q. What is the Amara-Kosha? F. O. M.

A. The Amara-Kosha or Treasury of Amara is a vocabulary of Sanskrit roots compiled by the Sanskrit grammarian, Amara Sinha, about 375 A. D. It contains 10,000 words, arranged in metre, to aid the memory.

Q. Was Franklin's Almanac the first American almanac? I. B. T.

A. Franklin's Poor Richard's Almanac is perhaps the most famous of American almanacs, but not the first, credit for which is given to William Pierce of Cambridge, whose almanac was published in 1639.

Q. What are the Magdeburg Centuries? C. L. L.

A. This name was given to the first comprehensive Protestant work on the Christian Church. It was published in the sixteenth century, but was divided into 13 volumes, each reviewing the church for one century, the last volume being a resume of the thirteenth century. The work was begun in Magdeburg—thus the name Magdeburg Centuries.

Q. What is the Decameron? W. C. C.

A. This is a collection of 100 short stories by Giovanni Boccaccio published in 1353. Ten of the tales are represented as told one each day for ten days by three men and seven women during the plague near Florence, Italy, in 1348. They range from the pathetic to the grossly licentious, and are preceded by a powerful description of the plague.

Q. Was Uncle Tom's Cabin the first story that Harriet Beecher Stowe wrote? O. M. H.

A. While Mrs. Stowe is chiefly remembered as the author of Uncle Tom's Cabin, she wrote many other novels. Her first book The Mayflower—was published in 1843.

Q. Who introduced printing in America? R. M. N.

A. The first book printed in the New World was probably a translation from Latin into Spanish of The Spiritual Ladder in 1535. Juan de Zumarra, a Franciscan monk, first Bishop of Mexico, printed it. The first book printed in America that contained cuts to illustrate the text was The Doctrina Christiana printed in Mexico City by Juan Pablos in 1544.

Q. When was The Birds' Christmas Carol written? W. R.

A. It was written in 1888 by Kate Douglas Wiggin.

Q. Was Philip Nolan a real person? M. B. J.

A. The Man Without a Country is a mingling of fact and fiction. There is no source of information concerning Philip Nolan except in the story of which he is the hero.

Q. Is there a dictionary of the American-Indian and English language? R. S.

A. The Bureau of American Ethnology says that there are approximately 150 stock languages in North and South America, which means more than 600 dialects; therefore, you can readily understand the impossibility of finding these all covered by one dictionary.

Q. What is the Heimskringla? S. S.

A. This has been called "the most important prose work in old Norse literature." It is a history of Norse kings. Parts were mythical, others real. The author was an Icelander, Snorri Sturluson (1178-1241.)

Q. In the footnotes of the Arabian Nights it frequently gives dates as being so many years after The Flight. What is referred to? J. M. W.

A. The flight referred to is the departure of Mohammed from Mecca to Medina to escape persecution. This is the starting point of the Mohammedan era, although the exact day of departure was uncertain.

Q. What are the names of some of the famous unfinished novels? V. K. C.

A. Charles Dickens died before he had completed Edwin Drood, Lord Lytton never finished Pausanias the Spartan, and Anthony Trollope was only on the 49th chapter of his Land Leaguers. Thackeray's unfinished novel, Denis Duval, appeared in the Cornhill Magazine for June, 1864. Robert Louis Stevenson died before completing The Weir of Hermiston, but the novel was afterwards finished by Sir Arthur Quiller-Couch.

Q. Who was the original of R. L. Stevenson's character Nares in The Wrecker? O. R. S.

A. Captain Otis, the skipper of the famous Casco was the original of Nares. This is said to have been R. L. Stevenson's favorite character.

Q. Are there any joke-books older than Joe Miller's? E. V.

A. This book of jests did not appear until 1739. A collection known as Scoggin's Jests is said to have been made as early as 1565, though the oldest edition extant bears the date 1626. The full title runs: The First and Best Parts of Scoggins Jests. Full of Witty Mirth and Pleasant Shifts, done by him in France and other places: being a Preservative against Melancholy. Gathered by Andrew Boord, Doctor of Physicke.

Q. What book gives the most perfect portrayal of a physician? R. E. P.

A. S. Weir Mitchell regarded George Eliot's Dr. Lydgate in Middlemarch the keenest word picture of a physician in modern English literature.

Q. How many similes are found in Beowulf? D. A.

A. Five.

Q. Was Captain Courageous written in England or India?

A. Rudyard Kipling wrote it in a little wooden house on the Balestier estate at Brattleboro, Vermont.

Q. Who was it who lost the manuscript of Volume I of Carlyle's French Revolution? D. M.

A. John Stuart Mill had this misfortune. A year's exhausting labor was the cost of the loss entailed to Carlyle.

XII

BUILDINGS

Q. How long was the Capitol in Washington in the making? F. R.

A. It took seventy years to complete it.

Q. What is the largest concrete structure in the world? W. W. L.

A. The Palace of Engineering at Wembley, England, is the largest in the world. It is so affected by temperature that it is one foot higher on a warm day than on a chilly night.

Q. How big was the Coliseum of Rome? A. A. G.

A. The Coliseum is said to have accommodated 100,000 spectators, of whom about 87,000 were seated, and its arena measured 182 feet from side to side and 285 feet from end to end.

Q. How large a building can be moved? T. G. S.

A. Engineers will not say that a limit has been reached in the size of buildings that may be moved. Five-story buildings weighing as much as 4,000 tons have been moved.

Q. Please state the height of the Woolworth Building and Washington Monument, and length of the Shenandoah and Los Angeles? J. E. K.

A. The Woolworth Building is 792 feet high; the Washington Monument 555 feet 3 inches; the Shenandoah was 680 feet long and the Los Angeles is 658 feet.

Q. Does London have buildings as high as those of New York City? N. S. T.

A. The buildings in London are low, none exceeding 200 feet in height.

Q. What is the projected height of the central tower of the new Union Depot of Cleveland? W. I. H.

A. The height of this tower will be over 700 feet and it will be the second highest building in the country, exceeded only by the Woolworth Building tower in New York.

Q. To settle a bet, how far down the Gulf of Finland can the Cathedral of St. Isaacs be seen? S. L. L.

A. On clear days, this Cathedral in Leningrad is visible for 20 miles down the gulf.

Q. What is the highest building west of the Mississippi? A. McE.

A. Probably it is the 42-story L. C. Smith Building in Seattle, Washington.

Q. What building in New York City was the first skyscraper? G. V. S.

A. The World Building, built some 30 years ago, was considered New York's first skyscraper.

Q. Which is taller, the Eiffel Tower or the Woolworth Building? W. P.

A. The Eiffel Tower in Paris is 1,000 feet high. The Woolworth Building is 792 feet high.

Q. Is there any wood used in the Eiffel Tower? D. K. C.

A. Wood was not used in the construction of the Eiffel Tower. It is built entirely of iron and rests on masonry foundations. Glass is used to enclose certain rooms reserved for special purposes.

Q. How much paint does it take to cover the dome of the Capitol? A. G.

A. Forty-three thousand pounds of paint are mixed when it is painted. It takes 35 men about three months to complete the task.

Q. How many buildings are there in New York City? C. D. S.

A. The New York Times recently stated that there are more than half a million buildings in the city. One family buildings predominate, with a total of more than 200,000. There are more than 1,000 office buildings in Manhattan.

Q. What is Escorial? P. B. S.

A. The Escorial is the largest building in Spain. Composed of a monastery, church, college, tomb and palace, it is built on a height 2,700 feet above the sea, about 27 miles northwest of Madrid. It was built between 1563 and 1584 by Philip II, and the bodies of all the Spanish kings since Emperor Charles V are buried there with the exceptions of Philip V and Ferdinand VI.

Q. How often is the Capitol painted? E. K.

A. The Architect's Office of the Capitol says the middle section of the Capitol Building is made of Virginia sandstone and is painted about once every three years. The wings are made of marble and are not painted.

Q. Are the original columns on the 15th Street side of the Treasury still in place? E. B. T.

A. The original columns on the east facade of the Treasury were of sandstone and were completed in 1842. In 1908, these columns were replaced by granite columns like those on the other sides of the building. They are Ionic monolithic pillars 36 feet 8¼ inches in height and the diameter at the base is 4 feet.

Q. How did the Forum at Rome become buried? T. E.

A. The Forum at Rome was probably built about 500 B. C. It was placed in a hollow between the Palatine, Capitoline and Quirinal Hills and added to from time to time. In the various sacks of Rome, particularly in that of 1084 and up to the sixteenth century, the Forum was largely destroyed. The accumulation of sand and silt drifting into the depressed open space through centuries caused the filling which recently has been evacuated.

Q. How long will a frame building last? A. A. P.

A. This depends upon a great many factors, including climate, kind of wood used, and care taken; but it may be stated that if well cared for a frame building may last for centuries. There is an old meeting house at Easton, Maryland, which is said to have been built in 1683 and is still in a fair state of preservation.

Q. What material was used in constructing the column in the Place Vendome? W. M. I.

A. The pillar is stone, covered with a coating of bronze made from a cannon taken in the campaigns of 1805.

Q. Why are the columns surrounding the Lincoln Memorial irregularly spaced? J. H. S.

A. In the spacing of colonnades such as surround the Lincoln Memorial the outside columns are always spaced nearer together than any of the others and there is usually a variation in all the spaces. This is especially true of Greek Doric columns. One reason is that it gives a more pleasing general effect and another reason is that the view through columns along

the side of the building shows the outline of the two end columns which would not be the case if spaced as wide as the central columns. These columns are not vertical but lean toward the building. The walls of the building itself are not vertical, the outside of them lean inward at a slightly smaller inclination than the columns surrounding them.

Q. Can the log cabin in which Lincoln was born still be seen? S. S. B.

A. The cabin has been enclosed in a magnificent marble mausoleum at Hodgenville, Kentucky.

Q. What is the Tower of the Winds? W. T. C.

A. This is the water-clock erected at Athens, Greece, in the second or first century before Christ. It is octagonal in plan, 42 feet high and 26 feet in diameter. Toward the top of each side it is sculptured with various symbols of the wind. Originally the structure was surrounded with a bronze Triton which served as a weather vane.

Q. How old is the Leaning Tower of Pisa? R. E.

A. It is believed to date from about the year 1174.

Q. Where is the Villa Madama in Rome? A. M. M.

A. The Villa Madama is on the Via Triumphalis under Monte Mario. It was built by Guilio Romano and the frescoes are famous.

Q. At Danville, Kentucky, is an old Capitol building. What is its history? N. B. A.

A. Danville was the first seat of Civil Government west of the Alleghany Mountains. The region was then called the Northwest Territory. The building to which you refer, served as the government headquarters, after the original commodious log structure was outgrown.

Q. Are the Capitol, White House, Washington Monument, and other Government buildings equipped with lightning rods? A. L. C.

A. The Monument and White House are so equipped, but the Capitol and Government buildings generally are not. The Monument lightning equipment consists of an aluminum cap on its peak.

Q. When were the Grand Central and Pennsylvania Stations in New York City started? C. G.

A. The Grand Central was commenced in July, 1903, and opened to the public February 2, 1913. The Pennsylvania Station was started June 15, 1908, and was opened November 27, 1910.

Q. Please give a description of the Shell Room in the Berlin Palace. M. L.

A. The Shell Salon is in the New Palace at Potsdam, formerly the summer residence of the Emperor. The walls and ceilings of the room are inlaid with corals, crystals and rare shells. The friezes are minerals and precious stones, many of which are of great value.

Q. Where is the largest riding hall in the world? R. F. P.

A The one at West Point has this distinction. Built in 1911, its interior measurement is 135 by 565 feet.

Q. Which is the oldest royal residence in the world? T. M.

A. Probably Windsor Castle is the oldest royal residence. Windsor was a residence of the Saxon kings before the Conquest, their palace being at old Windsor. William the Conqueror chose the present site, built a castle there, which was taken down and the present one built in the time of Edward II. This has since been extended and completely renovated.

Q. How large is the house that was built in 24 hours, in Hamilton, Ontario? M. A. L.

A. The house is 32x32 feet and contains 8 rooms—center hall, parlor, dining room, library, kitchen, and four bedrooms and bath. It has hardwood floors, electricity and hot water heating. The plumbing and heating installations took 16 hours. The material was delivered by more than 100 teams and 220 workmen were employed.

Q. Do tall office buildings sway when the wind blows? S. T.

A. The movement of tall buildings is very slight. Strictly speaking, they bend rather than sway. Tall office buildings are flexible, being built of steel that has a high elasticity and in a heavy wind where the total side pressure may amount up to hundreds of tons, the steel framework will bend over before it. Occasionally the swaying is perceptible to the senses, but as a rule in most modern buildings, the movement is so slight as to be perceptible only by instrumental measurement. Formerly, it was customary to allow for a uniform pressure per square foot over the whole surface from street level to cornice. Today it is recognized that the unit pressure increases with the height and calculations are made accordingly.

Q. Of what materials were the homes of the Romans made that made them so durable? J. A. N.

A. The homes of the Romans were imperishable because they were erected in a climate wherein there was practically no freezing and thawing. The same mortars used in our climate have not been at all successful. Furthermore the same stones used by the Romans give a comparatively short life in our country. The mortar mostly used by the Romans was a mixture of lime and sand. To this was added some natural occurring ground volcanic rock. This corresponds to what is known as puzzolana, which as indicated, has not been found satisfactory here.

Q. I want to make a miniature round tower like the one at Windsor Castle. What are its proportions? C. E. S.

A. The round tower of Windsor Castle is 80 feet high and about 100 feet in diameter.

Q. How was the building of the Eiffel Tower financed? J. B.

A. The French Government contributed $292,000 of the $1,000,000 or more that it cost. Alexandre Gustave Eiffel, the engineer who built it, supplied the remainder of the money, trusting for reimbursement to the collection of a fee for ascending the Tower His interest in the Tower was to terminate in 20 years, at which time—1909—the Government took it over. During the first year that it was open to the public the fees collected nearly paid the cost of the building.

Q. How long did it take to build the Coliseum at Rome? W. W.

A. It is said that this enormous structure was completed in one year, the compulsory labor of 12,000 Jews and Christians being employed.

Q. What is the size of Mount Vernon? W. J. D.

A. The house at Mount Vernon is 96 feet long and 30 feet wide. The front porch is 92 feet 8 inches by 12 feet 8 inches.

Q. What is the average floor space allowed for each person in theaters and such public buildings? E. S. G.

A. Generally speaking, theaters and similar places of public assembly are constructed under a computation to hold twice the weight that will be imposed by a full attendance. For the District of Columbia, the regulations require that in all theaters or public buildings with fixed seats there must be allowed a space of not less than 2 feet 6 inches from back to back of chairs, with an aisle width of not less than 4 feet, this width

to be increased with the increased size of the hall. Where there are no fixed seats, 8 square feet per person must be alloted.

Q. When and for what purpose was the Alamo erected? C. E. H.

A. The Alamo, San Antonio, Texas, was originally a Franciscan mission home, built 1732, and called San Antonio de Valerio. The building was used as a fort on occasions and called Ft. Alamo.

Q. What is a pagoda? N. M. I.

A. In the architecture of eastern Asia, any tower-like structure connected with a temple or serving as a shrine is called a pagoda.

Q. Somewhere I have read or heard of a building known as the Powder Horn. Can you tell me where and what it was, or is? H. J. B.

A. The Powder Horn is an octagonal brick building constructed under the direction of Governor Spotswood, of the Colony of Virginia, at Williamsburg, in 1714, to be used as a powder magazine. It is still standing.

Q. Did Jefferson Davis have anything to do with the designing or building of the Capitol? G. N. D.

A. Jefferson Davis had no such connection with the Capitol, but Crawford's bronze statue of Freedom which tops the dome wears an unusual liberty cap of eagle's feathers which was suggested to Crawford by Davis.

Q. What building in Philadelphia is famous as an example of Greek architecture? R. T. F.

A. It has been claimed for Girard College that it is "the most perfect Greek Temple in existence."

Q. What is the size of the banquet hall of the Pan-American Union? W. T. S.

A. It is 120 feet long and 50 feet wide.

Q. Is an apartment house kept as dry as the air of New Mexico? D. R. L.

A. The air of the majority of apartments in winter is considered a great deal drier than the climate of Colorado or New Mexico. One authority says that in some heated houses in winter the atmosphere is drier than that of the Sahara Desert.

Q. Is there a lightning rod on the statute of Freedom on the dome of the Capitol? M. B. S.

A. The statue acts as a lightning rod, having a row of spikes around th crown, placed there for the purpose of receiving lightning discharges.

Q. How many rooms are contained in the Vatican at Rome?

A. The Vatican is said to have 1,100 rooms.

Q. Of what material are most of the buildings in London made? P. L. L.

A. All parts of London are alike in the fact that most of the buildings are made of brick. There are no quarries near by, so the stone for the finer buildings must be brought from a distance. The smoke-laden London fog blackens the entire city although the West End suffers least in this respect.

Q. Where and what is the Versailles of Germany? V. L. D.

A. The Palace of Sans Souci at Potsdam, erected in 1745-47, for Frederick the Great, is copied after the Palace of Versailles and is sometimes known as the Versailles of Prussia.

Q. Where was the first customhouse in America? A. E. S.

A. It was at Yorktown, Virginia.

Q. Of what was the first temple or sanctuary of the Mormons in Salt Lake City built? H. F. B.

A. The first meeting places were called boweries and the Old Bow-

ery was erected in 1847, on the site of the present temple. It was built of poles and brush 160 by 60 feet. Posts were set and a skeleton frame lashed with rawhide thongs and wooden pegs. Upon this structure willows, sage brush, evergreens, and other shrubs were piled. This served until 1852.

Q. Just what makes a house a tenement? S. K. T.

A. The legal definition varies in different cities. In New York, Philadelphia, Washington, Buffalo and other cities a tenement is a house for two or more families. In Boston, Chicago and St. Louis the line is drawn at three families. There is no legal distinction between a tenement and an apartment.

Q. Is the Capitol building in Washington larger than the Union Station? A. M.

A. The Union Station covers more ground. It is 760 feet long and 343 feet wide while the Capitol is 746 feet by 270 feet.

Q. Why are bungalows so named? T. D.

A. Bungalow is an Anglo-Indian word adopted from Banga, meaning Bengal. At first the name was applied to a one-storied house of light construction made usually of unbaked bricks with a thatched roof and surrounded with a veranda.

Q. What is the most beautiful mosque in Cairo, Egypt? S. B.

A. The Gami Sultan Hassan begun in 1356, in point of splendor, stands foremost among the mosques of Cairo. The Mehemet Ali Mosque is also a structure of considerable architectural merit.

Q. When two bodies come in contact, as a bird flying against a building, is the building jarred in a small degree? E. I. S.

A. Yes. The kinetic energy is absorbed by the building, and if this were free to move it would do so until stopped.

Q. Who paid for the building of the White House? A. M. P.

A. The original cost was defrayed from the sale of lands donated by Maryland and Virginia.

Q. Who designed the State Capitol at Richmond, Va.? D. A.

A. Thomas Jefferson selected the design, that of the Maison Carree of Nunes, France. It, in turn, was a copy of an ancient Roman temple.

Q. What was Carpenters' Hall? H. M. S.

A. Carpenters' Hall, Philadelphia, was built shortly after 1770 as an assembly house and club for the carpenters' guild of that city. The first Continental Congress met there and the second Congress also began its sessions there.

Q. What is a Martello tower? K. C.

A. A round masonry tower designed to form a part of coast defense is called a Martello tower, being so named for its inventor. The original Martello tower was situated in the Gulf of San Fiorenzo, Corsica. These became popular about 1800, but their use has in most cases been discontinued long ago as they were found to be of little practical value.

Q. As I have read about the Somerset House I would like to know where it is located? R. H.

A. Somerset House is situated in the Strand—London. It stands on the site of a palace built by the Protector Somerset about 1549, rebuilt in 1776 by Sir William Chambers. The building now accommodates various government offices.

Q. Has the Congressional Library ever been burned? E. L. C.

A. The building which now houses the Library of Congress has never been destroyed by fire. Until 1897 when this building was

completed, the library remained in the Capitol. There, it was destroyed in 1814 when the Capitol was burned, and again in 1851 a fire reduced it to 20,000 volumes. It now contains about 3,000,000 books, charts, maps, pieces of music, et cetera.

Q. Did Andrew Carnegie furnish the money to build the Pan-American Building? H. O. L.

A. The Pan-American Building cost $1,000,000. Andrew Carnegie gave $750,000. The remainder was contributed by the countries represented in the Pan-American Union.

Q. Where is the Temple of the Sun? D. H. N.

A. This is an immense temple in Ancient Rome on the site of the early Pulvinar Solis on the Quirinal Hill. It was erected by Aurelian after the taking of Palmyra.

Q. Has the Patent Office ever been burned? F. C.

A. The building in which the models of patents were kept was destroyed by fire in 1836. Again in 1877 a part of the building was burned.

Q. How long did it take to build the Mormon temple at Salt Lake City? A. A.

A. The construction of the Mormon temple in Salt Lake City was begun in 1853 and the temple was dedicated in 1893, the time occupied in its construction being 40 years to a day.

Q. Has the weight of the Woolworth Building been estimated? P. O.

A. The Woolworth Building has an estimated weight of 206,000,000 pounds.

Q. By whom and when was King Solomon's temple finally destroyed? What now occupies the site where it stood? R. W. N.

A. Solomon's temple was destroyed by Nebuchadnezzar in 586 B. C. On the temple area, Abd el Melek erected a splendid mosque, the Dome of the Rock, commonly known as the Mosque of Omar.

Q. Where did Fleet Prison get its name? F. W.

A. Fleet Prison, London, was so-called from its situation on the bank of the Fleet, a tidal stream contributary to the Thames.

Q. Was the Roman Coliseum standing in the time of Christ? G. A. E.

A. This amphitheater was not built until 80 A. D.

Q. Where was the granite for the Mormon Temple at Salt Lake City obtained? F. J. D.

A. An enormous deposit of this most durable stone was found in the Cottonwood canyons of the Wasatch Mountains about twenty miles from the set site. Eruptions and glaciers had isolated enormous boulders which were chiseled out with hand drills and transported by oxen until railroad transportation became possible. Four yokes of oxen were required for each block and every trip was a labored journey of three or four days.

Q. Is it injurious to buildings to allow vines to grow on the walls? S. H. H.

A. It depends on the building. Stone and brick buildings are not injured by clinging vines. These may keep the building cool somewhat later in the spring, but are otherwise harmless. On wooden buildings damage may be done, since many vines which climb by twining, force their way through any joint which is not perfect, and then by continued growth force the woodwork apart.

Q. Where is the highest building in any country other than the United States? J. D.

A. The highest building outside the United States is the Cathedral at Ulm in Germany, which is 529 feet to the top of the spire.

XIII

CALAMITIES

Q. What is the cause of the greatest number of accidents? A. A.

A. Automobiles top the list of non-occupational causes of accidents. Almost a third of such accidents are traceable to the automobile.

Q. What was the worst flood in the history of the world, so far as loss of life was concerned? A. B.

A. Accurate flood statistics are not available, but the greatest disaster of which there is authentic record was the overflowing of the Hoang-Ho, China, in 1887, in which the loss of life was estimated at from 1,500,000 to 7,000,000.

Q. What country has the most earthquake shocks? D. B.

A. Earthquakes are most common in Italy and Japan, these countries each having more than 27,000 in the last 50 years.

Q. How many lives were lost in the Knickerbocker Theater disaster in Washington?

A. Ninety-eight persons died when the roof of the Knickerbocker, a moving picture theater, collapsed on January 28, 1922.

Q. Did ancient Rome have any earthquakes? T. D.

A. There never was any outstanding destruction in Rome as a result of earthquakes, but the city did have its quakes and some historians contend that many Roman palaces and temples said to have been destroyed by the barbarians between the fifth and ninth centuries were really shaken down by earth tremors.

Q. What was the date of the Kingston earthquake? W. W. T.

A. January 14, 1907.

Q. Has anything been done in California and other sections that have suffered from earthquakes to prevent damage from that source? C. A. L.

A. Recently an effort to survey the fault lines in the earth, along which earthquakes occur, from an airplane, was made in California and was partly successful. Exact knowledge of these fault lines makes it possible to avoid placing many structures where they are in danger. Building houses of wood rather than brick is considered the best protection against earthquakes. Earthquakes themselves have done little damage in California. It has usually been a fire or some other catastrophe following the earthquake that did most of the damage.

Q. When was the Iroquois theatre burned? A. K.

A. The fire at the Iroquois Theatre in Chicago occurred during the matinee performance of the extravaganza, Mr. Bluebeard, on Wednesday, December 30, 1903. The fire broke out between 3:15 and 3:30 o'clock in the afternoon. In the latter part of the second act as the octet In the Pale Moonlight was being sung, part of the hanging scenery caught fire supposedly from an unprotected light. The loss of life was 575.

Q. What was the extent of the damage done by the Charleston earthquake? I. N. D.

A. The earthquake of Charleston, South Carolina, occurred on August 31, 1886. Seven-eighths of the houses were rendered unfit for habitation. Many persons were killed and property valued at over $8,000,000 was destroyed.

Q. Was there an earthquake and tidal wave in Santa Barbara 113 years ago? S. T. S.

A. A destructive earthquake near Santa Barbara occurred in the latter part of 1812. The Mission Church at Santa Inez was completely destroyed, and some lives were lost; the greatest damage and loss of life took place at San Juan Capistrano, about 170 miles from Santa Barbara. A Spanish ship at anchor 38 miles from Santa Barbara was injured. For some time after this shock, the region was shaken almost daily by lesser quakes, some tidal waves are also recorded.

Q. Which was the worst earthquake that has ever occurred? M. C. C.

A. The Japanese earthquake of September 1, 1923, while not the severest in the world's history, exceeded any other in loss of life and property. The area affected was one degree square. Nearly 600,000 houses were totally destroyed and over 126,000 partially collapsed. In all 99,331 persons perished, 43,476 were reported missing and 103,733 wounded.

Q. In what mine explosions were most lives lost?

A. In the United States the greatest loss of lives occurred in the expolsion at Monorgah, W. Va., December 6, 1907, when 358 men were killed. This was exceeded at Universal, Great Britain in 1913 when 439 lives were lost; at Radbold, Ruhrrevier, Germany, in 1908, when the loss was 360; and at Courriers, France, in 1906, when 1099 was the total.

Q. How many lives were lost in the Halifax disaster? S. I. C.

A. In the explosion of war materials and fire at Halifax, December 6, 1917, 1,500 persons were killed and 4,000 seriously injured.

Q. When was the Baltimore fire? H. K.

A. The big fire which resulted in the destruction of property valued at $125,000,000 occurred on February 7, 1904.

Q. How many earthquakes are there in the course of a year? E. S. K.

A. Scientists say there are at least 10,000 earthquakes a year, or one every hour. Practically all of them are, of course, minor disturbances.

Q. How long after she was struck, did the Titanic sink? How was it possible to know what the band was playing when she went down? L. S.

A. The steamship Titanic was struck by an iceberg at approximately 11:46 P. M. She finally sank at 2:20 o'clock the next morning. The sinking of the vessel was witnessed by a number of survivors who put off in small boats. It is stated that several of the life-boats were close enough to hear the orchestra playing Nearer My God to Thee as the steamer sank.

Q. Please list the important earthquakes since 1850. A. H.

A. The following are some of the heaviest since 1850: August 31, 1886, Charleston, South Carolina; India earthquake of 1897; Kangra earthquake of 1905; California shock of April 18, 1906; Messina earthquake in 1908; Tokyo earthquake of 1923.

Q. How great was Santa Barbara's loss in public buildings due to the earthquake? S. N.

A. T. M. Storke, publisher of the Santa Barbara News, says that the loss to public buildings and charitable and quasi-charitable in-

stitutions was enormous. The losses in schools alone amounted to $700,000. The court house, jail, hall of records, county hospital and poor house, Sisters hospital, outfall sewer, ocean boulevard, as well as scores of minor public works and buildings were practically total losses.

Q. In what year did Ford's Theatre collapse? W. E. F.

A. It collapsed June 9, 1893, at 9:30 A. M. Twenty-two people were killed or fatally injured. The building was purchased in 1866 by the Government and housed a governmental department at the time of the accident.

Q. What was the Halifax disaster? V. A. G.

A. The explosion and conflagration at Halifax, Nova Scotia, Dec. 6, 1917, was caused by the collision of two ships, one carrying a cargo of war munitions. The total destruction covered 2½ square miles. This catastrophe was followed by a blizzard, greatly hampering the work of rescue. 1,158 dead bodies were recovered, 4,000 were seriously injured, 20,000 were rendered homeless, and the property loss was estimated at $50,000,000. The French Steamship Mt. Blanc, carrying munitions, collided with the Belgian relief ship Imo. The French captain was Captain Lemodic, the Belgian captain, W. J. Harrison.

Q. Have there ever been any earthquake shocks along the Oregon coast? J. S. P.

A. The Coast and Geodetic Survey says there have been several earthquakes off the coast of Oregon. The most recent one occurred January 31, 1922, several hundred miles off the coast.

Q. In accidents what part of the body is most frequently injured? M. V. R.

A. It is said that 53 per cent of all accidents are injuries to the arm and hand; 28 per cent, leg and foot; 8.1 per cent, trunk; 5.8 per cent, eyes; and 4.3 per cent, head. Of accidents to the arm and hand, 67.2 per cent are to the fingers, 14.2 per cent to the hands, and 18.6 per cent to the arms. The most dangerous injuries are those to the head, of which 22 per cent are fatal. Injuries to the trunk come next.

Q. When was the big wind in Ireland? T. R. B.

A. The big wind occurred in Ireland on the night of January 6, 1839. In Limerick, Galway, and Athlone, hundreds of houses were blown down and hundreds more were burned by the spreading of fires from those blown down. It is called the big wind because it is the worst of its kind known to the people of Ireland.

Q. Did the people of Martinique have any warning that Mount Pelee would erupt? E. D.

A. For two or three weeks prior to May 8, 1902, the volcanic activity of Pelee had been increasing. By April 25, the sulphurous vapors made breathing difficult in St. Pierre. By May 2 ashes from the volcano impeded traffic, and on May 6 an avalanche of mud poured down upon the neighboring towns and villages. On May 8 came the eruption which almost destroyed the city of St. Pierre in two minutes.

Q . What was the date of the great flood in Dayton, Ohio? E. E. M.

A. The Dayton flood occurred on March 31, 1913. The number of lives lost was 415.

Q. Does a country's proximity to the sea make it more liable to earthquakes? O. C. W.

A. It has been thought by some that the center of earthquakes and volcanic disturbances is always near the sea or other large supplies of water, and that the disturbances are directly caused by the filtration of the water down to igneous

matter, and the consequent generation of vast quantities of steam, which frees itself by explosion. Others have sought to explain earthquakes as part of the phenomena of a planet cooling at the surface or to the yielding of strata so as to slip downward upon each other.

Q. How many wrecks have there been off Sable Island? M. C.

A. From both ends of this island sand bars extend into the ocean for about 20 miles. It is on the route between America and Great Britain and more than 200 wrecks have occurred in these waters.

Q. Was there any compensation made to the relatives or dependents of the victims of the Titanic disaster? K. L. T.

A. Seven hundred and twelve people are still receiving financial aid from the Titanic fund which was founded soon after the disaster occurred, according to the public trustees of this fund in their annual report. The fund was raised by public contribution. It amounts to 290,813 pounds. The interest is distributed in pension payments to 104 dependents of passengers and 608 dependents of members of the crew.

Q. What causes earthquakes? S. M. E.

A. The origin of earthquakes has been traced to two principal causes, the first which is tectonic, and the second, volcanic. The former refers to movements in the earth's crust, known as faults, possibly caused by the shrinking of the interior of the earth by reason of cooling.

Q. What part of Tokyo was destroyed by the earthquake and fire? R. T.

A. Approximately two-thirds of the city was wrecked. Not since three-fourths of the city of London was destroyed by fire in 1666 has so great a part of a city been wiped out.

Q. Were there any funds established for victims of other great steamship disasters aside from the Titanic, such as the Lusitania and the Empress of Ireland? I. R.

A. The Lusitania fund totals 23,684 pounds, the proceeds from which go to care for 49 dependents of passengers. The Empress of Ireland fund aggregates 88,651 pounds and helps sustain 75 dependents of passengers and 182 members of the crew.

Q. How much territory really felt the San Francisco earthquake? W. E. A.

A. The San Francisco earthquake occurred April 18, 1906. The area affected was at least 450 miles in length. The loss of life was remarkably small. It was placed at 452 in all. Two hundred and sixty-six were killed by falling buildings, 177 by fire and 9 in other ways.

Q. When was the Johnstown flood? J. W. M.

A. The Johnstown flood took place on May 31, 1889. As the result of heavy rains the dam across the South Fork, a branch of the Conemaugh River, 12 miles east of the city, was carried away thereby releasing Conemaugh Lake.

Q. How many men are killed in coal mines in a single year? T. T.

A. The Bureau of Mines says that in 1923 there were accidents in and around coal mines which resulted in the death of 2,452 men. The output of coal for the year was 641,476,000 tons. The fatality rate was 3.82 per million tons.

Q. Where did the most violent earthquake east of the Mississippi occur? C. H. E.

A. The Charleston, South Carolina, earthquake of August 31, 1886, is considered the most violent of any recorded in the United States east of the Mississippi river.

XIV

CARD GAMES

Q. Who invented Bridge Whist? J. L. C.

A. Bridge was first known as Biritch or Russian Whist. This gave rise to the idea that it was a Russian game. Dictionaries of the Russian language do not contain the word. It seems more probable that the game is Levantine since it was known in Constantinople and Greece about 1870 long before it invaded western Europe.

Q. Why is the pool in a Poker game called a kitty? M. E. H.

A. The probable origin of the term is the old fashioned kist from which we get our modern word chest. A money box was a kist, so came the pool in a poker game to be called the kist then the kit, and finally, kitty.

Q. What is the nickname for the Ace of Clubs? T. W.

A. It is often called the Puppyfoot.

Q. Who invented the informatory double in Auction Bridge? M. P. K.

A. Major Patton of the Knickerbocker Whist Club, New York City, is given credit for this innovation. Bryant McCampbell of St. Louis was experimenting along the same line, and introduced a similar plan in an amplified form soon afterward.

Q. In Poker, is it a good practice to hold up a side card when drawing to a pair? E. F.

A. This is a bad habit, since it lessens the chance of making three of a kind.

Q. In Poker, playing Jackpots, need the opener show his hand if he is not called? J. J.

A. Foster's Hoyle says that when playing Jackpots, "If there is no call, the player making the bet or raise takes the pool without showing his hand, unless he is the opener, when the whole hand need not be shown, as it is no one's business what the opener got in the draw, no one having paid to see it."

Q. What game of cards is it easiest to cheat at? W. T. K.

A. Few games lend themselves so readily to the operations of the card sharp as the game of Seven-up.

Q. What scores is it impossible to make in Cribbage? H. F. S.

A. The best hand counts 29 (30 if dealer has 4 fives and turns a jack), and it is not possible to count 19, 25, 26, and 27.

Q. In a game of Poker can the player opening a pool, split two small pair and draw three cards? E. W. S.

A. In Jack Pot Poker, an opener is supposed to protect his discard. He can then split openers without announcing his play until the hand is over. Otherwise it is necessary for the opener to announce his discard if he splits openers. Two small pair are of course, openers.

Q. Mr. Work speaks of a con-

vention called the assist in Auction Bridge. What does he mean? A. C. S.

A. Milton C. Work says that the assist means raising a partner's suit rather than making any other declaration after an intervening adverse bid. The jump is raising the partner's bid in the absence of an intervening adverse bid.

Q. What is a dead man's hand in Poker? M. R. W.

A. A hand consisting of two pairs, aces and eights is generally known as a dead man's hand, although in some places the hand consisting of jacks and eights is similarly designated. There is a saying that a dead man's hand is never beaten, but that, of course, is not true, as the only hand that is never beaten is that which can not be beaten—a royal flush.

Q. In playing Cassino, can I increase a build of a six composed of deuce and four, by adding an ace from the board and a deuce from my hand, calling it a nine? H. K. E.

A. Builds may be raised with cards from the hand only; never with cards from the board.

Q. With what hand in Poker does the holder get his money back if he calls and loses? C. C. H.

A. In Stud Poker a player can not call with a hand which could not possibly beat the shown strength of the called hand, and if he makes such a call inadvertently he gets his money back; for instance, if the called hand has a pair of aces exposed and the caller's hand could not beat that pair by any possible combination of its exposed cards and buried card.

Q. How may playing cards be cleaned? E. A. M.

A. Soiled playing cards may be cleaned by rubbing with a cloth dipped in spirits of camphor.

Q. Why are hearts, spades, clubs and diamonds used on playing cards? L. E. McC.

A. The figures of the four suits of playing cards are supposed to have been originally intended for symbolical representations of the four great classes of men, and the names attached to these figures in England arose from a misapprehension of the names originally assigned to them. Thus, says one authority, by the hearts are meant the gens de choeur (coeur), the choirmen or ecclesiastics, and hence these are called copas, or chalices, by the Spaniards. Their word espada, sword, indicating the nobility of warriors of state, has been corrupted into the English spade. The clubs were originally trefles (trefoil leaves) and denoted peasantry; while the citizens and merchants were marked by the diamonds (carreaux, square tiles).

Q. How many different hands can be held in Auction Bridge? F. E.

A. E. V. Shepard in the Auction Bridge Magazine says that the 635,013,559,600 different hands that may be dealt may be distributed among the four players in 53,-644,737,765,488,792,839,237, 440 , 000 different ways.

Q. What kind of a card game is All Fours? W. D. T.

A. All Fours is the original form of the game called Seven-up or Old Sledge. The All Fours Family also includes such variations as California Jack, Auction Pitch, Smudge, Pedro, and Cinch or Double Pedro.

Q. How long has Whist been played in England? T. E. C.

A. Its origin is very obscure, but under its old name of Triumph it was so generally understood that Bishop Latimer preached a Christmas sermon in 1529 at Cambridge in which the allegories were based on the game.

Q. Who invented the rule of eleven used in Auction Bridge and why does it work? W. W. D.

A. This rule follows a mathematical principle and was discovered rather than invented by R. F. Foster in 1881. The cards in the various suits run from two to fourteen, the ace taking the value of fourteen. When the fourth best card of the suit is led, since there are three better ones in the leader's hand, the number in the other three hands that will take the card led will be found by subtracting from eleven the number of pips on the card led. The declarer can count the takers in his own hand and dummy, and will know, therefore, how many are in the hand of the leader's partner.

Q. In playing a hand of Cribbage, will a run count if a card not in the run interferes? M. L. H.

A. A card which does not belong to the run blocks it and the run can not be counted beyond such card.

Q. In Cribbage, what is meant by his nobs and his heels? F. M. B.

A. If the card cut for a starter in cribbage is a Jack, the dealer immediately pegs two points "for his heels," and the Jack held in hand or crib which is of the same suit as the card turned for starter counts one and is referred to as "his nobs."

Q. Who designed our present day playing cards? F. H.

A. Our present-day cards—at least a close resemblance to them—were designed in 1392 by Jacques Gringonneur, court painter to Charles VI of France, who had lost his reason. Gringonneur founded his pack on a regular system.

Q. When was the table of trick and honor values changed in Auction Bridge? D. M. R.

A. The value of the suits in use now—clubs 6, diamonds 7, hearts 8, spades 9, no trumps 10 — was fixed by the Whist Club of New York, November 1913.

Q. Which card is known as the Curse of Scotland? J. C.

A. The Curse of Scotland is the name applied to the nine of diamonds. Its exact origin is unknown. Various explanations have been offered as follows: The nine of diamonds is the Pope in the game of Pope Joan and hence the symbol of Anti-Christ to the Reformers. It is the chief card in Comette, which game has ruined many families in Scotland. It goes back to the nine lozenges on the Dalrymple arms of the Earle of Stair, who was responsible for the massacre of Glencoe. Tradition says that the Duke of Cumberland while drunk and gambling on the night before the Battle of Culloden wrote across the face of this card the order that no quarter was to be given on the following day.

Q. What is meant by calling playing cards squeezers? T. T.

A. Squeezers are cards with corner indexes or pips.

Q. In Euchre, if the dealer takes up the turned card and says he will play alone, what should he do with the card he discards? A. M. E.

A. It is customary, when a dealer plays a lone hand, for him to pass his discard across the table to his partner, face down, that there may be no misunderstanding of his intention.

Q. What is meant by a spread misere in The Shooting of Dan McGrew? J. M. A.

A. In some card games, a misere is a declaration in which the player engages to lose every trick. A spread misere is one that it is not necessary to play, the cards being shown and it being apparent that the hand will not take a trick.

Q. What is meant by a gallery

in a card game? N. C. S.

A. This is a term applied to the spectators who are betting on the game.

Q. Is there a Cribbage hand that will be improved by whatever card is turned as a starter? G. A. C.

A. With a hand consisting of the deuce, two treys and a four, any card that may be turned from the ace to the five, inclusive, will make new runs, while any card turned from the six to the ten inclusive wil make fifteens.

Q. Which royal flush is the highest? M. D.

A. Nothing beats a royal flush in Poker. Another royal flush ties it, since the suits are all of the same rank. Should two such hands be held in play, the pot would be divided. Among many Poker players there is a superstition against taking a pot with a royal flush, such players preferring to lay down such hands rather than spoil their luck.

Q. What is a tierce in Auction Bridge? M. W.

A. A tierce is three cards in sequence. Tierce Major is Ace, King, Queen; Tierce Minor, King, Queen, Jack.

Q. What are the probabilities of holding a Yarborough? C. A. E.

A. A Yarborough is a hand at Whist containing no card higher than a nine; the odds against it are 1827 to 1.

Q. I understand that Washington Poker players have a hand which they call the Washington Monument. What is it? L. D. G.

A. In Washington Poker games a hand consisting of three fives is sometimes called the Washington Monument, as three tens are called thirty miles. The Washington Monument is 555 feet high.

Q. What is vingt-et-un and how is the word pronounced? P. W. H.

A. Vingt-et-un is the French name of a card game and is nearly the same as the American game called Twenty-one. The pronunciation is Van' tay' yon' with the final n practically silent.

Q. In Auction what is meant by saying that the table carries one of the players? V. W.

A. If one player is not willing to play for a stake, at the end of each rubber his winnings or losses are divided equally among the other players. This is known as the table carrying him.

Q. Why is Pinochle so-called? T. E. T.

A. Pinochle is a phonetic equivalent of the original name of the German game Binocle. The word is probably derived from the French word Binage which was the name given to a combination known as Binocle. Binage carries the idea of doing things a second time.

Q. Is the game of cards spelled Casino or Cassino? C. C.

A. The proper spelling of the word is Cassino.

Q. A bets that no one has a right to demand a cut of the cards in Poker if the player next to the dealer touches them with his hand but refuses to cut them. B bets that any player in rotation from the dealer has a right to demand a cut. Who is right? D. G. P.

A. Neither is right. Any player may shuffle, dealer last, and player to dealer's right cuts. If he refuses, no other player may demand the right to cut.

Q. In a game of Auction Bridge, is it correct to say "I have bid three Hearts" or "I have bidden three Hearts"? L. H. M.

A. The verb bid has two forms for the past participle, bid and bidden. It is customary to use the form bid in card games.

Q. What is the name given to Poker when the Joker is left in the pack? W. T.

A. It is called Joker Poker or Mistigris.

Q. When is a Cribbage game won — when the peg is in the last hole or does it take another point to go out? A. H. C.

A. A Cribbage board has 30 holes in each row. A player goes up the outside, down the inside, and ends in the game hole which is in the middle of the board. That is, sixty-one points is game.

Q. In showing openers in Jack Pot Poker is it necessary to show the whole hand? R. W. W.

A. Foster's Complete Hoyle says that in such a game, should the opener decline to meet all raises before the draw, he must show his entire hand before abandoning it. After the draw, should he drop out, he must show openers, but need not show the cards he has drawn. He, like all other players, must show his entire hand if he is in the final call.

Q. In Cassino, if two people have such scores that both count on the same hand, the aces being divided between them, who wins? D. S. K.

A. In Cassino, the points count in the following order: cards, spades, Big Cassino, Little Cassino, aces and sweeps. If the aces have to decide the game, they score in the order of spades, clubs, hearts and diamonds.

Q. In Cribbage, how many different pairs are there in a Double Pair Royal? E. F. D.

A. Six separate pairs can be formed from four of a kind.

Q. What is it called when one player wins a game of Cribbage before his opponent is halfway? E. C. H.

A. When one player reaches his game-hole before the other turns the corner, it is called a lurch, and counts two games.

Q. How did the game Euchre get its name? D. A. L.

A. The name is apparently from the German Juchs meaning joke which is changed to Joker as the name of the extra card in the pack. Juch or ju is an exclamation of joy, which may be associated with the holding of the card known as the Joker.

Q. In playing Five Hundred when may the Joker be played in a no-trump hand when it is held by someone else beside the bidder? H. B. S.

A. In playing a no-trump hand in Five Hundred the person holding the Joker may play it at any time he cannot follow suit or he may lead it and call it any suit he wishes. He, however, does not necessarily have to play the Joker when he can not follow suit.

Q. In Cribbage, if both persons say go who counts it?

A. The one who comes the nearest to 31, that is the last player, counts the 1 for the go.

Q. What is a pat hand in Straight Poker, and is four of a kind considered a pat hand? G. M. H.

A. Pat hands are those which are played without discarding or exchanging any of the cards originally dealt. Four of a kind might be a pat hand or its holder might draw one card to mislead other players.

Q. What is meant by a brace game? D. T. E.

A. This is a card term given to a conspiracy between the dealer and the case-keeper at Faro, when cards are improperly taken from the dealing box to be properly marked by the case-keeper.

Q. What is meant by false carding? P. B. U.

A. This is a term used by card players, and means the playing of a card meant to deceive the opponents as to the player's holding in that suit.

XV

CHEMISTRY

Q. What is the name of the latest element discovered? E. S. M.

A. Element No. 61, recently discovered by Dr. B. S. Hopkins, of the University of Illinois, has been named illinium in compliment to the University.

Q. Why is salt used with ice to freeze ice cream? D. C.

A. Salt is used because the mixture of salt and ice gives a temperature of -21 degrees Fahrenheit, which is colder than ice alone.

Q. How many cubic feet of helium does it take to support a man? C. P.

A. It takes approximately 3,200 cubic feet of helium, 95 per cent to 98 per cent pure, to support 200 pounds.

Q. What city in the United States has the greatest amount of mineral content in its drinking water? P. M. I.

A. The Bureau of Chemistry says that the drinking water of Oklahoma City contains the greatest amount of minerals. There it amounts to 12.1 grains to a quart. The mineral content of the drinking water of Atlanta, Georgia, is the least, and amounts to only .2 of a grain to the quart.

Q. Can you give a simple chemical test to distinguish linen from cotton? C. C. G.

A. To test for adulteration, an infallible way is to boil a sample in order to wash out all the dressing and then put it in a 50 per cent solution of caustic acid. If cotton is present it will take on a light yellow color and the linen will become brown.

Q. From what is radium extracted? J. A. C.

A. Radium is extracted from certain kinds of pitchblend consisting largely of uranium oxide. M. and Mme. Curie who made the experiment, collected from eight tons of pitchblend about half a teaspoonful of something a million times more radiant than uranium, which was named radium.

Q. When was coal-tar first considered a by-product and put to use? L. N. B.

A. Up until about the middle of the nineteenth century coal-tar was regarded as a waste product and thrown away, or burned under the retorts, but beginning in 1846 its value was discovered and it was first used in Germany for making roofing felt.

Q. What is osmotic pressure? K. R.

A. Osmotic pressure is the unbalanced pressure which causes osmosis, that is, the diffusion of a weaker solution into a more concentrated one.

Q. A says gasoline is an oil. B says if gasoline is an oil, why is it not a lubricant? Please explain. M. E. P.

A. Gasoline is oil in a refined state — the lubricating properties having been removed, leaving only the combustible properties.

Q. Is rain water chemically pure? R. N.

A. Ordinary rain water contains appreciable amounts of dissolved oxygen, nitrogen, ammonia, and carbonic acid gas, and in special cases it is found to contain nitric acid, sulphuric acid, and other components of the impure air of cities. The acid and alkaline impurities increase the power of the rain water to dissolve the mineral constituents of the earth's crust; the gases make it possible for plants and animals to live in rivers and ponds which would not support life if the water were chemically pure.

Q. What degree of heat is attained by acetylene cutting and welding torches? A. R.

A. The oxy-acetylene flame is capable of producing a temperature in the neighborhood of 6,000 degrees F., the highest temperature that is produced outside of the electric arc. The figure has not been definitely established.

Q. How much does gasoline weigh? V. M.

A. It depends upon its specific gravity. Ordinary commercial gasoline weighs from 5.66 pounds to 6.24 pounds per gallon.

Q. Will laughing gas produce instant unconsciousness? R. J. F.

A. Laughing gas (nitrous oxide) N2O—is a colorless sweet tasting gas, condensable into a colorless liquid. Laughing gas is an anaesthetic used for operations of short duration. It will not produce instant unconsciousness.

Q. What do vitamines look like? W. F. G.

A. The Bureau of Chemistry says that no one, as yet, has been able to isolate vitamines in a pure form. We know very little regarding their physical or chemical properties. We do not know what they look like; whether they are crystalline or amorphous substances; whether they have color or taste. In fact, the question has been raised with reference to one of the vitamines that it may be a form of energy, and not a substance at all. Most that is known about vitamines has been learned from the effects they produce upon animals. Their function has been likened to that of the spark plug in a gas engine.

Q. What was Greek fire? L. T. T.

A. It was an incendiary composition used by the Byzantine Greeks. It is supposed to have been made of asphalt, saltpeter and sulphur. It would burn on and under water.

Q. What is casinghead gasoline and why is it so-called? E. C. J.

A. Illuminating gas or natural gas comes from gas wells and cools as it leaves the earth; some of it condenses and forms a liquid. This is drawn off and is called casinghead gasoline. It is usually more volatile than any other gasoline.

Q. When were elements discovered? R. D. B.

A. The term element was first given its modern meaning by Robert Boyle, an English scientist, who lived from 1627 to 1691. Certain of the elements, however, were known to the ancient alchemists, but their conception was not clear.

Q. What chemical has the greatest heat resistance? W. H. D.

A. The Bureau of Chemistry says that probably the chemical that has the greatest heat resistance is Fuller's earth or magnesia.

Q. Where is radium found in the United States and how much is there in the world? A. M. M.

A. The Bureau of Standards says that there may be eight or ten ounces of radium in the world today, but it has no definite figures. Practically all radium pro-

duced in the United States comes from Colorado.

Q. Is steam visible? A. H. C.

A. Actual steam is not visible. The visible white vapor which is frequently referred to as steam is in reality a collection of fine moisture particles which are formed by the condensation of true steam.

Q. Is there any substance that can not be frozen? B. L.

A. Helium has never been frozen.

Q. What is it in the waters of some rivers and springs that petrifies wood? R. A. R.

A. The Bureau of Chemistry says that it is the lime salts and in some instances silica in the waters of some rivers and springs that petrifies wood.

Q. How much does helium cost for dirigibles? A. B. F.

A. The production cost of helium is approximately 2.08 cents per cubic foot. The transportation cost to the air station is higher and ranges from 7 cents to 10 cents per cubic foot.

Q. How fast does radium lose its value? M. P. S.

A. Radium loses half its value in approximately 1800 years, no matter how it is packed.

Q. Why is it said that the progress of civilization is proportional to the quantity of sulphuric acid used? L. S. H.

A. Sulphuric acid is a key chemical and is an important substance used to a large extent in the manufacture of those products which are made in increasing quantities as civilization progresses. It is used in the manufacture of artificial fertilizers, explosives, paper, soap, glass, paints, powder, in the preparation of chemicals, bleaching, and the metallurgy of metals, in purifying mineral oils, in dyeing calico printing, tanning, and refining of gold, and for other purposes.

Q. What is the A B C Process? E. Y. H.

A. The A B C Process is a method of purifying sewage by sulphate of alumina, blood, charcoal and clay.

Q. How does the lifting power of helium compare with that of hydrogen? G. J. B.

A. The Bureau of Standards says helium will lift 0.066 pounds per cubic foot under ordinary conditions. Hydrogen will lift 0.071 pounds per cubic foot. If air and gas are at the same pressure reduction of pressure causes a proportional reduction of lift. Increase of pressure on the gas decreases the lift. Helium gas is non-inflammable, non-poisonous and the next lightest gas to hydrogen.

Q. What are the chemical elements composing the human body? A. C. H.

A. The approximate chemical analysis of a man 5 feet 8 inches in height, weighing 148 pounds, would be: Oxygen, 92.4 pounds; hydrogen, 14.6; carbon, 31.6; nitrogen, 4.6; phosphorus, 1.4; calcium, 2.8; sulphur, 0.24; chlorine, 1.12; sodium, 0.12; iron, 1.02; potassium, 0.34; magnesium, 0.04; flourine, 0.02; total 148.30 pounds.

Q. When was the first association of chemists formed? J. L. D.

A. The first society of this kind in the world was the Chemical Society of Philadelphia, founded by James Woodhouse in 1792.

Q. What is the difference in weight between sea water and fresh water? N. G.

A. Sea water will weigh about one and a half pounds more per cubic foot than fresh water at the same temperature.

Q. At what degree will gasoline freeze? A. E. C.

A. The Bureau of Standards

says that gasoline has no definite freezing point. It stiffens up slowly like melted wax at temperatures far below those ordinarily encountered even in the Arctic.

Q. What does radium look like? K. D.

A. The Geological Survey says that radium is ordinarily obtained from its ores in the form of hydrous sulphate, chloride, or bromide, and it is in the form of these salts that it is usually sold and used. These are all white or nearly white substances, whose appearance is quite similar to common salt or baking powders.

Q. How many rose leaves does it take to make an ounce of attar of roses? A. H. D.

A. It is said that it takes two tons of rose leaves to make an ounce of this highly concentrated perfume.

Q. What will dissolve celluloid? M. G.

A. It can easily be dissolved in denatured alcohol.

Q. Will all the parts of a human body turn to invisible gases? Is it a part of Nature's plan to make the whole man finally invisible after death? G. V. A.

A. The chief ingredients of the human body turn to gases—water vapor and carbon dioxide. The others, calcium, phosphorous, etc., turn into solids which become a part of the soil. The body changes not to gas alone, but to gas and dust.

Q. How are disinfectants classed? V. S. E.

A. Disinfectants are classed as physical or chemical. Physical disinfectants are heat, sunlight, diffused light, and air. Chemical disinfectants are solid agents, such as lime; liquid agents or solutions, such as crude carbolic acid or gasoline; and gaseous agents, such as formaldehyde or carbon monoxide.

Q. Does water always freeze at a temperature of 32 degrees? L. N.

A. Pure water ordinarily freezes at a temperature which is denoted by 32 degrees on the Fahrenheit scale, but it is possible to cool water to a temperature considerably lower than this, if proper precautions are taken, without crystallization. Placed in a vessel and covered with a layer of oil, water may be cooled to 10 degrees without freezing, but if the vessel be shaken or jarred solidification ensues at once.

Q. Who discovered oxygen? R. W. W.

A. The American Chemical Society says that Joseph Priestley, an Englishman who came to America in 1794, discovered not only oxygen but also ammonia, hydrogen, chloride, sulphur dioxide, and nitrous oxide. In the course of his various manipulations of vapors, he isolated chlorine, which is now extensively used in the arts and in the manufacture of military gases.

Q. Is the use of gas increasing or decreasing? W. H. F.

A. W. H. Fulweiler, who has just been given the Grasselli Medal by the Society of Chemical Industry, says that despite the growth of the electric illuminating industry in America, the gas industry has increased ten fold the value of its products and the capital invested is now nearly 20 times as large as it was 30 years ago. This growth, he asserted, has been due largely to research work which has resulted in wide uses of gas for domestic and industrial purposes.

Q. What is animal sugar? M. E. T.

A. Glycogen or animal sugar is a carbohydrate of the same chemical composition as starch, but with different chemical properties. It is found in small amounts in muscular tissue, and more abundantly in the liver. It has an important

function in nutrition, being stored as a reserve source of energy for the body.

Q. How much gasoline is derived from natural gas and how much from oil? J. W. McD.

A. The Bureau of Mines says that approximately 10 per cent of all gasoline made is taken from natural gas and 90 per cent from petroleum.

Q. Does hot water freeze quicker than cold water? G. McC.

A. Chemically, pure water freezes more quickly than water that contains impurities. Water that has been boiled and cooled will freeze more quickly than water that has not been.

Q. Is there any chemical action on tin from egg yolks? C. A. N.

A. There is no chemical action on tin from egg yolks if pure tin is used, but very few so-called tin vessels are made of pure tin. The solder used in these vessels contains zinc which would most probably act upon the egg yolk.

Q. Does gas consume oxygen when used for heating a room? C. L. P.

A. Gas does consume a portion of the oxygen when used for heating a room. This objection is easily overcome, however, by keeping the room well ventilated. Fresh air is heated more quickly than stale air.

Q. How can the odor be taken out of kerosene without changing its chemical composition? F. L. G.

A. To deodorize kerosene, shake repeatedly with fresh portions of metallic quicksilver. Let it stand for 2 days, then rectify, or shake with plumbate of soda (oxide of lead dissolved in caustic soda), then rectify.

Q. What makes soap lather? M. M.

A. The Bureau of Chemistry says that soap lathers because of the inclusion of air in the emulsion of soap and water, thus forming myriads of tiny soap bubbles.

Q. How much does house paint weigh? I. C. P.

A. Various colors of outside house paint have different weights. Brown and green are light in weight, while white and light shades are heavy. The brown and green weigh 14 pounds per gallon, white lead 18 pounds, red lead 22 pounds. White lead is used for house painting, while red lead is used for metal painting.

Q. What is the easiest way to remove film from old photograph negatives? C. A. G.

A. Usually nitric acid is used for this purpose, but caustic soda may also be employed.

Q. What is gallic acid? G. A. F.

A. It is an organic acid that exists ready formed in small quantities in gallnuts, in Chinese tea, in valonia, in sumac, and other vegetable products. Gallic acid has also been prepared artificially by chemical methods. It is a colorless substance, crystallizing in the form of silky needles that are soluble in cold water. This acid will reduce the salts of gold, silver, and platinum and has been employed in developing photographs. It is also used in medicines.

Q. What two chemicals will flame when water is poured on them? S. W.

A. The Bureau of Chemistry says that metallic potassium will burst into flame if water is poured on it. Metallic sodium is another chemical that will frequently ignite if water is poured on it.

Q. Why does soap help to remove dirt? D. G.

A. Popular Science says that soap contains a material that has the ability to stick very tightly to things. It creeps over their surfaces as a film of oil will creep over the surface of water. When

you wash your hands, a very thin film of this material creeps all over your hands next to the skin. It even creeps in underneath any particles of dirt that happen to be sticking to your skin. It pushes these loose and the water washes them away.

Q. What is meant by a per cent solution?

A. The term is used loosely in two or three ways. For instance, a 5 per cent solution of calcium chloride means, to some chemists, a solution made up by dissolving 5 grams of the salt in 100 cubic centimeters of water. It may also mean a solution made by dissolving 5 grams of the salt in enough water to make 100 cc. In the strict sense, a 5 per cent solution is one of such strength that 100 parts by weight contain 5 parts by weight of the salt.

Q. What is the melting of salt called? S. S.

A. The Geological Survey says that the melting of salt is known in chemistry as deliquescence—that is, the power of any salt to absorb water and actually go into solution. In damp weather salt absorbs the water from the air. Some salts have a greater power for absorbing water than others.

Q. What is ambergris? H. S. H.

A. Ambergris is a fatty secretion formed in some sperm whales. It is taken from whales directly, but more often is found floating in the water, especially in the waters of the tropics. It is also found cast up on beaches in lumps which sometimes exceed 200 pounds in weight. On exposure to the air it develops a sweet, earthy odor, in place of its original disagreeable odor. Ambergris has a high commercial value as a material used in the manufacture of perfumes, and the price is increasing, due to the rarity of the sperm whale and growing demand for the material.

Q. How may chlorophyll be synthesized? H. M. F.

A. The Bureau of Chemistry says that chlorophyll has never been synthesized in any laboratory.

Q. What is the average shrinkage by evaporation on five gallons of gasoline stored in an underground tank for seven days? W. R. N.

A. The Bureau of Mines says that the shrinkage from this cause would be nearly or practically negligible. The shrinkage by contraction due to temperature change, such as cooling during the night, may average about one per cent. On being heated again during the day the shrinkage changes to expansion in about the same percentage.

Q. What is the name of the chemical which when held in contact with artificial gas will cause the gas to light? E. H.

A. It is spongy platinum.

Q. How is hydrogen obtained? F. M.

A. Hydrogen is produced commercially principally by one of two methods: (1) the electrolytic process by which water is decomposed into two elements, hydrogen and oxygen, and (2) the steam iron process by which hydrogen is prepared from steam by the action of iron.

Q. Can materials be bleached in the sunlight more rapidly in cold than in warm weather? R. G.

A. Bleaching in sunlight is generally explained as being due to oxidation, which is hastened by the photochemical rays. The Bureau of Standards has not noticed that the bleaching is more rapid in cold weather. If so, it may be due to the greater clearness of the air so that fewer rays of short wave length are reflected away from the earth by dust particles.

XVI

CHILDREN

Q. What per cent of the children born are twins? M. S.

A. It is estimated that 1.07 per cent of the number of babies born in the United States are twins. Twenty per cent of these are said to be twins of the identical type.

Q. What was the name of the child born on board the Mayflower in 1620? T. H. G.

A. Peregrine White was the name of the child born on the Mayflower.

Q. What is the largest number of children ever known in one family? S. E. P.

A. The largest family of which there is a record is probably that of Rameses II of Egypt. There were 200 children in his family, 111 sons and 50 daughters being mentioned in inscriptions made by their father.

Q. How much time does it actually take to care for a baby? D. L.

A. The Children's Bureau says that an estimate based on a group of 17 young mothers shows that the care of a baby is a full-time job for five hours and 41 minutes every day, and a part-time job the rest of the time.

Q. How much does it cost to bring up a child? C. M. S.

A. The Metropolitan Life Insurance Company estimates that a child costs $6,150. This includes birth and expense until he is 18 years old. This total is reached by adding to the initial "cost of being born," estimated at $250, the sums of $2,500 for food; $1,620 for rent, reckoning the share of the child as one-sixth of the total expended; $300 for fuel and light; $351 for furniture and household maintenance; $144 for first cost of installation of the home; and for clothing, $912 for a boy and $1002 for a girl.

Q. Is it possible for feeble-minded parents to have normal children? J. P. C.

A. Almost without exception, if both parents are feeble-minded none of the children will be normal. In one study of this subject, this was found to be true in the case of all but six of 482 children whose parents were feeble-minded.

Q. At what age should a child's training begin? F. O. N.

A. It should begin as soon as the child is born. Regularity is the first lesson. Feeding, bathing, airing and putting a baby in its bed at the same times daily inculcates its first habits.

Q. Are all babies blue-eyed at birth? O. C. G.

A. Nearly all babies have blue eyes at birth, but the permanent color appears in the first few weeks. A baby does not shed tears until it is about three months old.

Q. What color is for boys and what for girls? W. S. B.

A. In different sections of the country there are different interpretations of colors for children. The old symbolism, however, is blue for a girl and pink for a boy.

It is explained that blue was the color assigned to the girl, because it is the color of the Blessed Virgin. The Virgin Mary belonged to the royal house of David, whose color was blue.

Q. Should a boy be forced to read books that he does not like? E. K. S.

A. If the joy of reading is not to be lost forever to the boy, he must not be compelled to read. A juvenile reader needs to be led gently to an understanding of books, in such a way that they will mean to him what they meant to Emily Dickinson, who wrote: "There is no frigate like a book to take us miles away, Or any courser like a page of prancing poetry. Such traverse may the poorest take without oppress of toll; How frugal is the chariot that bears the human soul."

Q. Should a baby sleep with a pillow under his head? L. E. C.

A. A baby will breathe more easily and take more air into his lungs if no pillow is used. A clean, folded napkin may be placed under his head. Toward the end of the second year a thin hair pillow may be used. Feather or down pillows are unduly heating.

Q. What is the meaning of intelligence quotient? J. F. C.

A. The intelligence quotient or I. Q. of a child is determined by multiplying its mental age by 100 and dividing by the actual age. Thus the intelligence quotient of a normal chlid is 100. A child with an I. Q. below 80 is rated as subnormal, while one with an I. Q. above 120 is rated as gifted. About five children in 100 will be found to be 20 below normal and about five 20 above normal.

Q. What makes children bowlegged? E. H. J.

A. This condition is due to allowing a child to walk too early, or to rickets, or rarely, to muscular contraction before the child is put on his feet.

Q. Can you give me any figures showing the approximate number of crippled children in this country? E. F. E.

A. E. F. Allen, of Elyria, O., has made a survey which indicates that there are about 325,000.

Q. What were the names of the children of the William Brewster who came over on the Mayflower? C. H. R.

A. The four Brewster children were named Love, Wrestling, Patience, and Fear.

Q. How young a child can be convicted of a crime? W. R.

A. No act done by any person under seven years of age is a crime.

Q. Is child labor increasing? C. H.

A. Child labor is increasing steadily. Every State has child workers. They are found in agriculture, in manufacturing plants, in trade, in transportation, in domestic service, in mining, and in other industries. More than a million children are gainfully employed.

Q. Were any of Brigham Young's children deformed? V. S.

A. The author of the new biography of Brigham Young says: "There were no lame, deformed, or blind children among Brigham Young's fifty-six."

Q. In what city of the United States was the first study of infant mortality made by the Children's Bureau? S. T.

A. The bureau's initial inquiry into infant mortality was made at Johnstown, Pa.

Q. Do we have Mother's Pension for widows with dependent children? C. R. S.

A. Most of the States grant public aid to widows to assist in

the care of dependent children in their own homes.

Q. Which industry in the United States employs the most children? A. B. E.

A. We are informed that the textile industry employs more children than any other, namely 55,000, 10-15 years of age, according to the census of 1920.

Q. How much sugar should a child have each day? B. T.

A. An ounce of sugar a day or its equivalent in honey, syrup, candy, or some other sweet is sufficient for the child, and not too much if served at the end of a meal so as not to destroy the appetite for other more useful foods. This allowance should include the sugar used in cooking and also that added to foods at the table.

Q. What books did Lincoln read as a boy? B. R. R.

A. The list included the Bible, Pilgrim's Progress, Aesop's Fables, Robinson Crusoe, Weem's Life of Washington, A History of the United States, and the Statutes of Indiana.

Q. How many non-Christian children are there in this country? M. G.

A. There are estimated to be 27,000,000 children and youths (under 25) in the United States that are not affiliated with any religious institution.

Q. Do foreign born children automatically become citizens when the father takes out naturalization papers? V. V. V.

A. Foreign-born children under the age of 21 automatically become American citizens when the father is naturalized.

Q. Is a child born of American parents living in Alaska eligible to the Presidency? W. V. D. M.

A. A child born in Alaska is an American and would be eligible to the Presidency when of the required age.

Q. Should children of a given age eat a fixed amount of food? O. H.

A. Child specialists inform us that between the ages of four and 12 years a very active child requires double the total calories of a very quiet child, and a moderately active child requires one-third more calories than the quiet child. Because of the demands incident to rapid growth, all children require highly nourishing food.

Q. How old were Martha Custis' children when she married George Washington? T. W. W.

A. They were aged nine and seven.

Q. How many children are there in day nurseries? N. D.

A. At least 28,000 children, mostly of working mothers, are enrolled in the 600 day nurseries in the United States.

Q. What is the average number of times that children are ill each year? D. S.

A. The Public Health Department says that the only studies that it knows of in regard to the length of sickness per family in the United States for medical attention was made in Hagerstown, Md., but the result of the investigation is an example of what might be expected of other cities and communities. This investigation was confined entirely to school children. In the terms of averages it was found that each child of a large group of children in the public schools was ill during the school session 2 3-10 times. Common colds, headaches, digestive disorders, tonsilitis, etc., seemed to cause more absence than any other conditions.

Q. When is Children's Book Week? M. J.

A. The second week of November is Children's Book Week. It

was first organized about nine years ago by the Library Department of the Boy Scouts of America, and now universally observed in cooperation with the American Library Association and the Women's Clubs of the Country.

Q. When was the Children's Bureau of the United States Department of Labor established and what is its purpose? P. T. N.

A. The law creating the bureau was passed in 1912. Under its terms the bureau is directed to investigate and report upon "all matters pertaining to the welfare of children and child life among all classes of our people, infant mortality, the birth rate, orphanage, juvenile courts, desertion, dangerous occupations, accidents and diseases of children, employment, legislation affecting children in the several States and Territories."

Q. What is the death rate of children in the United States? M. R.

A. According to a recent compilation the death rate for children under 5 years is as follows: distribution per 1000, 20.3.

Q. What became of Napoleon's son? W. A. M.

A. Napoleon's son, the Duke of Reichstadt, died from over-indulgence in violent exercises. He was buried in the Imperial Tomb at Vienna.

Q. Where was the first Christian girls' school in Japan? C. E. M.

A. Ferris Seminary, Yokohama, started in 1870 by the Mission of the Reformed Church in America, was the first Christian girls' school in Japan.

Q. Was Virginia Dare born in Virginia or North Carolina?

A. "The first white child born in America" was born on Roanoke Island, Virginia. This, however, is now part of North Carolina.

Q. Who trains the Chinese children who are sent to America on the fund created by the Boxer indemnity? C. T. L.

A. The Tsing Hua College in Peking opened in 1911 is in charge of training students before they are sent to the United States under the terms of the agreement for the remission of the Boxer indemnity.

Q. How many other children were there in Benjamin Franklin's family? A. M.

A. There were 16 other children in this family, Benjamin being the 15th of the 17 Franklin children.

Q. How many children attend Sunday School? A. R. S.

A. There are 27,709,706 pupils and 2,296,825 officers and teachers in the 287,426 Sunday Schools of the world. In North America alone there are 155,944 Sunday Schools with 1,697,520 officers and teachers, and 17,066,061 pupils.

Q. When does the school year begin in Japan? C. I. M.

A. The Japanese school year begins in April and ends late in March with a short vacation before reopening. The longer summer vacation and 10 days or so about New Year's divide the year into three terms.

Q. What is the story of Betty Zane? R. M.

A. Betty Zane was the heroine of an attack on Fort Henry. She ran from the fort, to a little log cabin where was stored a keg of powder, secured the keg and ran back to the stockade through a rain of bullets fired by Indians, who were making the attack. The attack upon Fort Henry, now Wheeling, West Virginia, was made September 27 and 28, 1777. Betty Zane was one of the famous family of borderers, which gave the name to Zanesville, Ohio, and

to Zane's trail, the first wagon-road that penetrated the Ohio country.

Q. What were the last names of the children who survived the Mountain Meadows Massacre? M. N. W.

A. It appears that the children who were survivors of the Mountain Meadows Massacre were all too young to remember the tragic affair and that the first names were all which could be gained from the children themselves. Wherever it was possible these children were returned to their friends.

Q. How many children did John Brown have? Did any of his sons aid him at Harper's Ferry? F. H. C.

A. John Brown was married twice and had twenty children, eight of whom died in early childhood. His sons aided him in all his undertakings and two were killed at Harper's Ferry. Owen Brown who died in 1889, was long the only survivor of the attack.

Q. Who originated the fresh air movement to give city children summer vacations in the country? J. Y.

A. The Reverend Wm. A. Muhlenberg of New York is credited with having started the first fresh air movement in 1849.

Q. What State was the first to ratify the Child Labor Amendment? F. K.

A. Arkansas was the first.

Q. How many children contract tuberculosis through cow's milk? H. S. Jr.

A. The milk from cows infected with tuberculosis has been estimated by authorities to cause at least 10 per cent of all the tuberculosis in children.

Q. Why is it that Jewish children who are permitted to attend school classes on Saturday will not write or tear paper on that day? C. J. M.

A. Dr. Israel Shapiro, chief of the Semitic Division of the Library of Congress, says that orthodox Jews do not permit their children to do anything on Saturday (the Jewish Sabbath) which might be construed as manual labor, forbidden by the Law of Moses. The tearing of paper differs only in kind from the act of tearing cloth for the making of garments, or other everyday work. The carrying of a cane differs only in kind from the carrying of a pack. And writing at school differs only in kind from clerical work. The acquisition of learning or wisdom, however, is enjoined upon Jewish children as a pleasure and duty, rather than as work.

Q. Will you publish the Ten Commandments in rhyme? A. N.

A. A version that has been arranged for children follows:

"Thou no Gods shalt have but me,
Before no idol bow the knee.
Take not the name of God in vain,
Nor dare the Sabbath day profane.
Give to thy parents honor due,
Take heed that thou no murder do.
Abstain from words and deeds unclean,
Steal not, for thou of God art seen.
Tell not a wilful lie, nor love it;
What is thy neighbor's do not covet."

Q. Are the feet of Chinese children still bound? G. C.

A. Grace Seton in Chinese Lanterns says that "Foot-binding is still practiced, although it is now against the law, and fashions in it differ according to localities. In the public schools, if the harsher practice of breaking the bone has not been followed, the feet can be unbound. About 30 years ago Mrs. Wang of Soochow started the first Anti-Foot-Binding Association in her native city. Now this effective means of compelling public opinion has spread throughout central China."

XVII

CLOTHING

Q. What material is most generally used for clothing? C. M. S.

A. In 1921 it was determined that cotton is most widely used, about 90 per cent of the world's clothing being made of cotton materials. For every pound of silk produced there are 50 pounds of wool, and 200 pounds of cotton.

Q. How much should a girl who expects to go to college four years allow for clothes? S. R. T.

A. A girl can dress attractively and appropriately on $250 a year if she has most of her dresses made at home, if she shops carefully, buying coats, etc., out of season, and if she plans deliberately. A fair allowance for the girl who must buy most of her clothes ready-made is $450.

Q. What city makes most of the men's clothing? R. P.

A. New York City manufactures more than 41 per cent of all men's clothing made in the United States, Chicago coming second with about 16 per cent. The men's clothing industry is the second largest in New York, women's garment industry standing first.

Q. What kind of clothes were men wearing when George Washington was President? J. H. H.

A. During the 18th century the old-fashioned doublet had developed into a coat and close-fitting breeches tied below the knee worn with light silk stockings and buckled shoes; hats were broad brimmed, turned up on three sides, and edged with feathers or ribbons. The coats were of velvet, silk or broadcloth and brightly colored, according to individual taste. After 1790 a change began and round hats, short coats, light waistcoats and pantaloons which reached the ankles and fastened with buttons, superseded the old finery. Shoe strings replaced buttons and hair powder went out of fashion.

Q. Why is a sombrero so-called? M. V. B.

A. The word is derived from the Spanish sombre, meaning shade.

Q. When was the first skirt worn? C. H. K.

A. If you accept the Biblical account of the history of the race, doubtless Eve wore the first skirt, for it is stated in Genesis that Adam and Eve made themselves coverings. The anthropologists, who believe that man as we know him evolved slowly from some lower form of life, say that there was a stage in his development when he went naked; but it would probably be impossible to fix the time when men first began to wear clothing.

Q. Is it warmer to wear two rather thin undergarments in the winter or one thick one? R. T.

A. Two thin garments are warmer than one thick one because the air between them is a poor conductor of heat.

Q. How long has the tam o'shanter been worn? F. C. B.

A. It was worn as early as

1840-50 by Scotch plowmen. About 1889 it was modified as a head-dress for girls and young women.

Q. When were stockings first worn? H. B. C.

A. The use of stockings originated in the cold countries or northern Europe. The art of knitting was invented, it is supposed, in Scotland, about the beginning of the sixteenth century. Queen Elizabeth and her court were the first to wear silk stockings and a machine for knitting them was invented in 1598 by William Lee of Woodbridge, Nottinghamshire, England. In the United States the German immigrants of the Mennonite sect set up their stocking frames in 1689. By 1790 the stocking industry had been established in several towns in Connecticut.

Q. How long have hats been worn by men? G. N.

A. It is difficult to state just when hats were first worn and there is no record as to where or when the first hat was made. The first modern hat, as we know this article of men's wear, was made in Paris in 1404 by a Swiss manufacturer, but it was not until 49 years thereafter that the French adopted any sort of a head covering.

Q. Why are high heels on shoes called French heels? I. W. K.

A. It is said that Louis XVI appeared in court wearing high wooden heels on his shoes. He was not a tall man, and adopted this expedient to make himself regally impressive. The term French heel was applied to high heels and finally to a certain type of high heel.

Q. How are the sizes for gloves determined? G. M. P.

A. Gloves are proportioned by a scale based on the fact that in the average man's hand the length of the third finger is the same as the width of the hand, and the same figure is the length of the body of the hand to the wrist. Ladies' gloves are made slimmer in the body of the hand with relatively longer fingers.

Q. Who invented the collapsible opera hat? R. G.

A. This hat is also called the Gibus hat, named for its inventor, a London hatter.

Q. Where are gloves made? R. H.

A. Glove making centers are Grenoble, Niort, Vendome and Paris, France; Brussels, Belgium; Copenhagen, Denmark; and Worcester, England. In the United States, out of 355 glove making establishments, 219 are in New York State.

Q. Who introduced long trousers in America? H. L.

A. The Haberdasher says: "Trousers are comparatively young things, having come in about the same time the last century did. George II was the last English monarch who wore knee breeches as a regular thing. The change from breeches to trousers was not a studied one, however, for there was a period of transition. During that time, men took to tights and gaiters, and these were the forerunners of trousers proper, that is, the straight up and down loose cut models we know today."

Q. What will restore color to clothes that are spotted? W. D. P.

A. When the color on a fabric has been destroyed or changed, ammonia should be applied to neutralize the acid. A subsequent application of chloroform usually restores the original color.

Q. Should children wear all wool or silk and wool underclothing in the winter? A. R. C.

A. Mixtures of cotton and wool or silk and wool are to be preferred. The mixed fiber in the garment maintains a more uniform body temperature and thus helps

prevent colds. An undergarment made from a combination of wool and some other fiber is much less irritating to the skin than all wool, according to the experts. It is also more easily cared for, as the silk or cotton prevents some of the shrinking. In all-wool undearwear which has been washed many times, the fibers shrink and become matted together. This prevents good ventilation and increases the scratchiness of the wool.

Q. Did man first wear shoes or some sort of clothing? W. W.

A. There is no authentic record. Shoe manufacturers claim that foot covering antedates clothing or ornaments.

Q. Please suggest a method by which to keep lingerie straps from slipping off the shoulder. A. M.

A. On each end of a narrow tape or ribbon, about three inches long, sew respectively the two parts of an ordinary dress snap. Attach one end to a point about an inch from the neckline of dress or blouse on the underside at the shoulder. In adjusting the snap include the lingerie straps within the loop thus formed.

Q. How many ounces of wool are there in the average man's suit? C. S. Y.

A. To manufacture a suit of man's clothing requires about 62 ounces of wool, or a little less than four pounds.

Q. How can a Panama hat be cleaned? C. E. R.

A. A mixture of three parts benzine to one part magnesia, applied with a small brush, is a successful cleaner for Panama hats. Scrubbing with soap and water is also effective, rinsing and wiping each small area as washed.

Q. Who were the first glove makers? E. D.

A. The earliest glove makers in history were the monks under Charlemagne who were granted the unrestricted right of hunting in return for making gloves, girdles, and book covers from the skins of the deer they killed.

Q. What kind of trousers are known as bags? E. M.

A. Bags is an old vulgarism for trousers. Oxford University students now apply the term to very wide trousers usually made of flannel.

Q. Is paisley the name of a weave of a shawl or of a particular pattern? R. C. O.

A. The reason the name paisley is applied to a shawl is because the manufacturers of the shawls imitating the famous shawls of India and Cashmere in Asia first manufactured them in the town of Paisley, Scotland. Indian designs were closely copied and a very fine grade of shawls produced. For many years the industry was the leading one of Paisley, but the manufacture of them in late years has greatly fallen off, although they are still manufactured.

Q. What shape was a Roman toga? D. L.

A. The Roman toga, which was worn as a loose outer garment by citizens when appearing in public, consisted of a single large piece of cloth of a shape approaching a semi-circle.

Q. When were corsets first worn in France? E. M. P.

A. Corsets were introduced into France about the time of the Revolution, when the French ladies adopted the Greek dress. Previously they had been worn by Germans, by whom they were invented. Bandages resembling corsets were used in Rome during the early ages, but only as a support, until a slender waist was considered a mark of beauty, when they were made to compress the form.

Q. Can children's cotton clothing be rendered fireproof? M. T. E.

A. Into starch used for muslins or other light and fluffy material used for dresses, etc., put an ounce of alum or sal-ammoniac to about 3 or 4 quarts of the starch when ready to use.

Q. How did men dress about 1830? H. L.

A. The wig and the pigtail went out of fashion early in the 19th century and gentlemen wore their hair rather long and freely oiled. Loose cossack trousers, high-waisted vests, and voluminous cravats were in fashion, the shirt collar was often worn turned up with the points showing above the cravat. The coat cut away squarely in front went out of date and the style replacing it resembled the present frock coat. A phrase in Bulwer-Lytton's Pelham (1828), "People must be very distinguished in appearance to look well in black," started the fashion of black for evening dress. High silk hats reached their perfection in the 30s and masculine dress has changed very little since then.

Q. How much material is used in making the turban worn by Orientals? T. T.

A. These turbans are made of the softest and finest of muslin and are fashioned from 10 to 20 yards of material.

Q. When were breeches first worn? C. T. A.

A. Breeches were worn by the ancient Greeks as a badge of slavery. In the reign of Honorius about 394 A. D., the breeches' makers were expelled from Rome.

Q. Were parasols ever carried by men as well as by women? H. G.

A. It is only since the eighteenth century that the use of the parasol has been confined to women in Europe. In Asiatic countries it is used today by members of both sexes.

Q. How long have men worn high silk hats? T. G.

A. This dress hat is about 150 years old. It was first made in Florence but came to America from London and Paris.

Q. In old times people wore tuckers. What kind of a garment was this? E. S.

A. A tucker was worn by a woman in the 17th century. It was a narrow piece of linen lace or the like, folded across the breast or attached to the neck of the gown.

Q. What can be done to keep a raincoat from getting stiff? G. A. M.

A. When not in use a raincoat should be frequently sponged with water to keep it in good condition.

Q. When did long trousers first appear in the United States? H. C.

A. The fashion of wearing pantaloons was imported from Paris in 1800. It was 10 or 15 years before gay gallants gave up their shorts.

Q. Where does the straw braid used in hats come from? A. R. G.

A. In the United States straw hats are made from braid that is chiefly imported from Italy, China and Japan. Of the various materials which go into the fabrication of plaited hat-gear the most important is wheaten straw.

Q. Why do men's coat collars always have a nick in them? R. H.

A. This fashion dates back to the 17th century. The tops of men's coats were cut so that they could be fastened up around the neck and the V-shaped nick in modern coats is a survival of this custom.

Q. What is the best way to mend a rip in kid gloves? L. T.

A. Buttonhole around the rip with cotton thread to match the color of the gloves; then draw together the edges of the buttonholing.

XVIII

COMMERCE

Q. What is meant by free trade?

A. Freedom of trade is a term that has been used since the time of Adam Smith, to mean the removal of all restrictions on commerce that favor one form at the expense of another. It involves in particular, equal treatment of home and foreign products. Under this system no preference is shown to either class and consumers can choose the most suitable article without having to pay a penalty for their selection. This policy is derived from the teaching of Adam Smith in Wealth of Nations.

Q. What is the origin of commerce?

A. The first foreign merchants of whom there is record were the Arabs; their trade was by land. The first maritime carriers were the Phoenicians, the founders of Tyre and Sidon. In view of the heavy costs of transportation, the goods were of the richer sort — spices, silk, embroideries, fine linens, and manufactures of gold, silver and precious stones.

Q. How does the United States rank with other nations as to commerce? G. B.

A. The Department of Commerce says the United States ranks second to Great Britain in the value of exports and imports combined. The United States exceeds Great Britain in exports but not in imports.

Q. What is the extent of the business in waste materials? B. L.

A. The waste trade has its own directory which lists more than 25,000 concerns who either deal in wastes or use them as raw materials in their own industries. Some 1,200 of these dealers are in foreign countries, and not only sell their own domestic waste but buy at good prices the refuse of American industry.

Q. What is the difference between barter and sale? G. T. H.

A. In law, barter is a contract for transferring property, the consideration being some other commodity, or it may be described as a contract for the exchange of two objects or commodities, while a sale is a contract for the transference of property in consideration of a price in money.

Q. How much freight is hauled by motor? Q. S.

A. It is estimated that 1,000,000 motor trucks in service in the United States haul annually a matter of 1,430,000,000 tons of freight. Of this amount 134,400,000 tons represent farm products.

Q. What is carrying trade? W. A. N.

A. Carrying trade is a phrase used in political economy and also in commercial transactions. It usually refers to the commerce of different countries with each other.

Q. Is the trade balance in favor of the United States or Canada? G. W.

A. The Department of Com-

merce says that the total value of imports into the United States from Canada for year ending June 30, 1926 amounted to $699,252,945 and the exports to Canada during this period amounted to $474,003,-538.

Q. Why are export marks required on all export shipments? W. G. S.

A. The Department of Commerce says that export marks are required on shipments for purpose of checking and identification. The same geometrical figures and the numbers appearing on shipment are also noted on Bill of Lading and ships manifest. In all shipments where there is more than one package each bears its own unit number as well as the total number of units in the shipment.

Q. How do you figure what the good will of a business is worth? M. C. V.

A. It has been a commonly accepted practice to value the good will of a going concern at five or six times its average net profits per year. In a court proceeding recently, however, the good will of a well known firm was appraised at ten years' net profit.

Q. Is the St. Lawrence route traffic increasing? S. B.

A. The 1925 shipping season on the Great Lakes—St. Lawrence route up to November 30th, indicates for the entire season a substantial increase over that of any preceding year The total traffic of the St. Lawrence Canals for the period mentioned amounted to 6,120,135 tons of goods carried, as compared to 4,319,919 tons carried in 1923, an increase for the period named of over 40 per cent.

Q. How much time does a worker in the building trades lose each year because of weather conditions? T. D.

A. The Department of Commerce says that seasonal irregularity in building activity is due more to custom than to climate or weather. However, they also say that the average building trades worker customarily loses from a fourth to a third of his available working time during the year.

Q. How does the Rhine compare with the Detroit River in volume of trade handled? J. W. K.

A. The commerce of the Detroit River in 1924 amounted to 80,073,-850 short tons. The shipping at the principal ports of the Rhine amounts to nearly 17,000,000 tons annually.

Q. How do the fresh fruits of the United States rank in value of exports? A. G. N.

A. According to Commerce Reports: Apples, oranges, pears, grapefruit, grapes, lemons, peaches and small fruits. Total value of exports of fresh fruits in 1925 was $42,220,522.

Q. What three conditions are said to be essential to international trade?

A. They are — means of transport, freedom of labor and exchange, and security.

Q. How old is the Chamber of Commerce of New York? R. G. A.

A. The Chamber of Commerce of New York was formed in 1768 and the charter granted at that time by King George III of England was to "The Chamber of Commerce of the City of New York in America." When the United States was established the association was re-incorporated under the laws of the State of New York and the name changed to the Chamber of Commerce of the State of New York.

Q. How much commerce passes through the port of New York? C. J.

A. In 1925 some 4,602 vessels, with a tonnage of 19,359,533, entered the port of New York and

almost as many cleared from it. They carried in and out merchandise to the value of more than two and one-half billion dollars.

Q. When was the protective tariff first heard of in the United States? P. S. B.

A. The first piece of legislation by Congress after the adoption of the Constitution was the tariff act of July 4, 1789. The main purpose of this was revenue, but protection was also extended to certain industries which it was desired to encourage, such as glass and earthenware. In 1816 protection was extended to textiles, hats, cabinet wares, leather and paper, and in 1824 other industries were demanding protection. In 1828 there was a protective tariff so high that it was called a "tariff of abominations."

Q. What toll was collected at the Panama Canal last year? E. H.

A. The gross revenue from tolls of the Panama Canal for the twelve months ending June 30, 1925, was $21,400,523.51.

Q. Give some information concerning ocean tonnage handled at the port of Montreal. D. O. R.

A. Ocean tonnage handled at the port of Montreal, situated at the head of the 30-foot ship channel in the St. Lawrence River, increased from 554,692 tons in 1882 to 2,404,787 tons, not including grain, in 1924. The number of ocean vessels which entered and cleared was 648 in 1882 and 1,233 in 1924.

Q. How much of Germany's import and export trade is with the United States? H. M. B.

A. According to the official German returns more than one-fifth of Germany's imports are from the United States, and German sales to the United States during the same period amounted to six per cent of total German exports.

Q. What is a business cycle? P. R. M.

A. The sequence of phenomena known as a business cycle has been described as follows: "state of quiescence, improvement, growing confidence, prosperity, excitement, overtrading, convulsions, pressure, stagnation, distress, ending again in quiescence."

Q. Does all printing matter on exported boxes of merchandise have to have "Printed in U. S. A." on it? M. S.

A. The United States Chamber of Commerce says it is not necessary to place the words "Made in United States" or "Printed in United States" on American made goods. This is done in some cases but it is not compulsory.

Q. How much Philippine embroidered goods do we import? R. A. H.

A. In 1925 the United States imports of Philippine embroideries amounted to over $4,000,000.

Q. Is there anything imported into the United States upon which there is no tax? I. T. A.

A. The value of the free list importations is greater than the value of dutiable goods. Certain chemicals, coal tar products, drugs, undressed furs, hides, iron ore, leather—in fact, articles generally in the form of raw materials are admitted to the country free of duty. The number of taxable articles, however, greatly exceeds those in the free list.

Q. What are the principal imports of the United States? R. J. T.

A. Sugar cane, raw silk, coffee, crude rubber, newsprint paper, copper, cotton goods, mineral oil, furs and manufactures of furs, other hides and skins, wool including mohair, jute and manufactures of jute, gems, wood pulp, tin, fertilizers, unmanufactured tobacco, vegetable oils, oil seeds, woolen

goods, flax, hemp and manufactures of both, raw cotton, fruits, and silk goods.

Q. Where do we get the nitrate of soda used in this country? J. C.

A. Practically 100 per cent of the nitrate of soda used in this country is imported from Chile, South America.

Q. Has the rate of exchange an effect on commerce? A. C. B.

A. The Department of Commerce says that the present disordered exchange situation militates against the recovery of the world's commerce, but that it is an effect rather than a cause. Exchange has been likened to a barometer; the barometer indicates the weather, but it does not make the weather.

Q. What is commercial paper? H. S. L.

A. Commercial paper is a general name for checks, drafts, notes, bills of lading, bills of exchange, warehouse receipts, treasury warrants, orders for delivery of goods, certificates of stocks and bonds, etc., and is sometimes applied to contracts and agreements.

Q. Is it true that trade follows the flag? J. F. D.

A. That has been laid down as an axiom, but it has also been said that "trade never follows the flag, but trade demands that the flag shall follow and protect it."

Q. What effect did the Embargo Act of 1807 have on American trade? J. F.

A. Exports fell from $110,084,-207 in 1807 to $22,430,960 in 1808.

Q. Is it true that in Chicago, freight is hauled underground? S. F. O.

A. Chicago has a tunnel underlying the Loop District and extending from it which handles a great amount of its frieght. There are 132 electric locomotives and 3,000 freight cars now in use.

Q. What percent of the United States commerce was carried by United States vessels in the early days of United States Shipping? L. C. B.

A. In 1826 United States vessels carried 95 per cent of the imports, and 89.6 per cent of the exports.

Q. What is meant by the triangular trade route in American history? K. C.

A. The name was applied to the route from the United States to the West Indies; from the West Indies to Europe; and from Europe to the United States. "The mainland shipped food and lumber to the West Indies; the West Indies shipped sugar products to Europe: and Europe shipped manufactures to the American mainland, thus closing the transaction."

Q. How much business is actually done with cash? C. W. D.

A. In large cities it is estimated that more than 90 per cent of the commercial business is done by checks and drafts, less than ten per cent being done with cash.

Q. What is the record number of business failures for a single year in this country? T. W. B.

A. In 1922 there were 23,676 commercial failures in the United States, the greatest number ever recorded in a single year. In 1923 business failures totaled 18,720.

Q. What is meant by commercial geography? L. D.

A. Commercial geography treats of the distribution of the world's products, of existing demands for these commodities and satisfactory means of transportation and exchange.

Q. What per cent of American-made products are exported? J. S. B.

A. The Department of Commerce says that between 5 and 8 per cent of our manufactured products are exported.

Q. How much money does it take to sell a commodity such as soap, bread, vegetables. or fruits? T. H. G.

A. It has been estimated that it costs 17.91 per cent of the value of each article when selling groceries.

Q. How many firms have been in business over 100 years, the firms still remaining in the male line of the families of the founders? M. S.

A. Mark Sullivan, in a review of such firms, lists about 80.

Q. What percentage of firms fail in business? F. Y.

A. While the records kept by Dun & Company do not show what percentage of firms in business eventually fail, they do indicate accurately, however, the percentage that fail each year. Examination of the records shows that since the close of the Civil War the ratio of defaults to the total number of firms in business in the United States has averaged barely one per cent per annum.

Q. What is a manifest? J. S. M.

A. The Department of Commerce says that a manifest is a statement of the cargo carried on a boat and has to be filed with the customs' officials before shipments go on board.

Q. What is meant by balance of trade? S. G. T.

A. This term is applied to the difference between the value of exports and imports. The balance of trade is in favor of the United States when this country has exported more than it has imported. This difference was formerly measured roughly by the outflow or inflow of precious metals in settlement of accounts. Many factors enter into analyses of modern trade relations and only broad general tendencies can be indicated in discussion of trade balances.

Q. How did the amount of our commerce carried on American ships compare before the World War with the amount before the Civil War? E. P.

A. Before the World War only eight per cent of our goods was carried in vessels under the American flag, while at least sixty per cent of our commerce was carried in our own merchant ships prior to the Civil War.

Q. What part of the money spent in shops is spent by women? O. B.

A. They spend 85 cents out of every retail dollar. They influence the purchase of 62 per cent of all hardware; 84 per cent of the drugs; 90 per cent of the automobiles; 98 per cent of the household supplies; 97 per cent of the groceries; 77 per cent of the sporting goods; and even the purchase of 61 per cent of men's haberdashery is influenced by women.

Q. Is there any trade where the employees fix the price of the commodity sold? W. W. E.

A. The barbers are organized in a union which not only regulates wages and hours of labor, but fixes prices charged to patrons. Every raise in barbers' wages must under union rules be followed by a corresponding increase in prices and vice versa.

Q. What is a joint tariff? J. K. C.

A. If a tariff quotes a through rate in which two or more railroads are involved it is known as a joint tariff and is filed with the Interstate Commerce Commission; in other words, if the commodity starts with one carrier and terminates with another it is a joint tariff.

Q. How many times has the tariff been revised?

A. The tariff has been revised twenty-two times by Congress.

XIX

CRIMINOLOGY

Q. What does crime cost the United States in actual money? B. T.

A. Edward H. Smith, in Business, says that the total annual levy that crime places on the country amounts to about $10,000,000,000. It is three and a half times the national budget for 1923, and at least 12 times the annual cost of the Army and Navy.

Q. When was flogging as a punishment abolished in the United States Navy and Army? F. E. A.

A. In the United States flogging was discontinued in the Navy and on merchant vessels in 1850; in the Armv it was abolished in 1861.

Q. What is a misdemeanor? S. G.

A. In law, a misdemeanor is any offense below a felony, but in this country the various States vary widely in defining misdemeanor, so that what is a misdemeanor in one State may be an indictable felony in another.

Q. What percentage of prisoners in our penitentiaries are graduates of high schools? I. M. C.

A. There are no official statements on this point. According to an estimate made by an organization engaged in prison relief work, less than 20 per cent of the prisoners in institutions visited had received a high school education.

Q. Is the number of criminals increasing or decreasing? I. M. C.

A. The Committee on Law Enforcement of the American Bar Association says that whereas the general population of the country increased 14.9 per cent from 1910 to 1922, the criminal population increased 16.6 per cent during the same period.

Q. Was the treadmill devised as a mode of punishment? D. S.

A. The treadmill was invented by Sir William Cubic as a mill to be operated by man power and was later adopted as a means of punishment and introduced into the prisons of England about 1820. It has been generally abolished.

Q. How did Sing Sing get its name? H. P. W.

A. Sing Sing is derived from the Indian words for a stony place. The prison is still called Sing Sing, but the name of the town was changed in 1901 to Ossining.

Q. For what single offense are the most people imprisoned? A. P.

A. The commitments for drunkenness outnumber those for any other offense.

Q. What per cent of criminals are caught and punished in this country? G. S. T.

A. Ex-Governor Hadley of Missouri has estimated that 90 per cent of those committing major crimes in this country are not apprehended and punished; 75 per cent of those apprehended and prosecuted escape the minimum punishment provided by law.

Q. Where are the Federal prisons? O. W. S.

A. The Federal prisons are located in the following places: Atlanta, Ga.; Fort Leavenworth, Kans.; McNeils Island, Wash. There are Naval prisons at Mare Island, Cal.; Boston, Mass.; and Portsmouth, N. H.

Q. How old was Sophie Lyons, the reformed criminal, at her death? F. T. M.

A. She was born in New York City, December 24, 1848, and died in Detroit, May 8, 1924. The first 36 years of her life were spent in an atmosphere of crime, and she came to be known as Queen of the Crooks. She reformed, amassed a fortune in real estate transactions, and died at the age of 75 years.

Q. What prisons go in for farming on an extensive scale? C. E.

A. While many prisons have farms, probably the largest development of the farm colony idea for prisoners in the United States is in connection with the Federal penitentiary at Leavenworth, Kansas.

Q. When did the Dartmoor prison massacre take place? O. O. F.

A. The original purpose of the Dartmoor prison, at Princeton, England, was to receive French prisoners. On April 6, 1815, some American prisoners who were confined, together with 6,000 Frenchmen, were fired upon by the guard, who killed seven and wounded sixty. It was explained that the guard feared mutiny, or an attempt at escape by the prisoners. A joint commission declared the shooting justifiable, but acquitted the Americans of attempting to raise a mutiny.

Q. What is a panopticon as applied to prisons? L. W. K.

A. A panopticon is a circular prison in which the cells and their occupants are constantly visible to guards stationed in a central tower. Such a prison was proposed in 1787 by Jeremy Bentham. The new penitentiary in Illinois embodies this idea. The interior wall of each cell is made of glass.

Q. What prison was known as the English Bastile? G. K.

A. This name was applied to Coldbath Fields Prison, a London jail erected in the time of James I. It became inadequate and was closed in 1886.

Q. Where is the old Libby Prison? G. W. L.

A. The Chicago Historical Society says that when the Libby Prison was torn down from within the present Coliseum building, many of the bricks which were in the bona fide walls of the prison were taken by the wrecking company and became the foundation for a livery stable. The contents of the museum and some of the bricks, however, are in the Gunther collection located in the building of the Chicago Historical Society at 632 North Dearborn street.

Q. What became of the man who killed the Archduke of Austria? A. S.

A. Prinzip, the assassin of the Archduke of Austria and his wife, was arrested and soon after died in prison.

Q. When was Charlie Ross kidnaped and how old was he? G. S.

A. Charley Ross was abducted from his home in Germantown, Philadelphia, on July 1, 1874. He was at the time 4 years and 2 months old.

Q. What constitutes the difference between manslaughter and murder? H. F. J.

A. Manslaughter is the unlawful killing of another without malice, express or implied. It is the absence of malice which distinguishes this crime from murder.

Q. In England does each shire control its jail or prison? N. E. A.

A. All prisons are under the

control of the general government which assumed this duty through Act of Parliament, 1878.

Q. Has Argentina a law making universal fingerprinting compulsory? H. B. F.

A. There is no compulsory system of universal fingerprinting in Argentina but fingerprints have been accepted as a standard means of identification. All men registering for military service are fingerprinted and as voting is compulsory their voting record is checked up by the fingerprint system. Other persons may register as they like with the police department, and have identification cards given them.

Q. Was Jesse James killed by an officer? G. T. A.

A. Jesse James was shot by Robert Ford, who, with his brother, Charles, was tried and found guilty of murder. It developed, however, that they had been acting under instructions and in concurrence with the Missouri authorities and they were promptly pardoned by Governor Crittenden.

Q. When were finger prints first taken? M. C. B.

A. Alphonse Bertillon invented his system of mensuration in March, 1879, for which he was made Chevalier of the Legion of Honor. The taking of finger prints as a method of identification has been more or less in use in the Far East since very early history.

Q. Please describe a guillotine and tell why it is so called. B. P. P.

A. The guillotine consists of two posts united at the top by a cross beam, and furnished with grooves in which a broad blade of steel heavily weighted with lead is fixed. Machinery is set in motion and the blade descends by the impetus of its own weight on the neck of the criminal, who is fastened to a plank beneath. Death in this manner is instantaneous. The guillotine was named because the bill for installing such a method of capital punishment was proposed by Dr. Joseph Ignace Guillotine in the French Legislature, 1780.

Q. Why are criminals executed at sunrise? J. A.

A. It is quite customary for such executions to take place as early as possible on the date named by the court, and the custom of waiting until daylight undoubtedly originated among the military, in order that the aim of the firing squad might be certain.

Q. Was Boss Tweed ever sent to prison? V. K. S.

A. Tweed was brought to trial in 1873 on a charge of grand larceny and forgery and sentenced to 12 years' imprisonment and a heavy fine. His sentence was reversed in 1875, but he was unable to furnish bail pending certain civil suits and was committed to jail. He escaped to Spain, but was brought back to New York on a warship and again committed to Ludlow Street jail, where he died.

Q. Who was the first woman executed by electricity in the State of New York? E. N. S.

A. The Warden of Sing Sing says that the first woman to be executed in that institution by electricity was Mrs. Martha Place on March 20, 1899. However, Mrs. Farmer was the first woman executed in the State by electricity. The execution was at Auburn Prison, Auburn, N. Y.

Q. What is meant by keelhauling? D. R.

A. Keelhauling was a form of punishment inflicted in the navies of the British Empire and the Netherlands. By means of tackles, usually on the foreyard arms, the offender was hauled from one side of the ship to the other underneath the keel. Weights attached to the feet insured the sinking of the culprit.

Q. What is the percentage of illiteracy among criminals? K. R.

A. Criminal statistics of this sort are practically unavailable from official sources. A Superintendent of the New York State Reformatories said that of 22,000 criminals whom he had examined, only 4 per cent were college graduates, only 7 per cent had finished high school, 25 per cent had finished grammar school. Sixty-four per cent had attended only primary schools or none.

Q. Under English law, what constitutes murder? D. H. M.

A. The generally accepted definition of murder in English law is that of Coke: "When a person of sound memory and discretion unlawfully killeth any reasonable creature in being and under the king's peace with malice aforethought either expressed or implied."

Q. Did Queen Victoria's reign bring about a lessening of crime in England? D. Q. R.

A. When Queen Victoria succeeded to the crown there were about 50,000 convicts in England. At her death there were less than 6,000.

Q. How many criminals are executed in this country? W. S.

A. The Metropolitan Life Insurance Company recently published a statement that only one in 145 convicted for homicide suffered the death penalty.

Q. Who was the Japanese statesman who was killed in 1909? N. R.

A. The Japanese statesman who was assassinated in 1909 was Prince Ito, murdered at Harbin, October 26, at the railway station where he had gone to confer with the Russian Finance Commission on the Far East question. Prince Ito was killed by a Korean student.

Q. Is whipping as a legal punishment for crime practiced in Canada and England? H. F. K.

A. Whipping as a punishment for women was abolished in England during the reign of George IV. As a punishment for men, whipping may be administered in private, for certain specific crimes, but the court must specify the number of strokes and the instrument. In Canada, whipping as a punishment for crime is still a penalty under certain definite sentences, but it is not applied to women.

Q. When and where were the murderers of Herman Rosenthal put to death?

A. The four gunmen—Lefty Louis, Gyp the Blood, Dago Frank, and Whitey Lewis—convicted of the murder of Herman Rosenthal, were electrocuted at Sing Sing Prison on August 14, 1914. Charles Becker was electrocuted at Sing Sing on July 30, 1915.

Q. Who discovered that finger prints had individuality? F. R. B.

A. The taking of finger prints is known to have been practiced in the east at a very early period when thumb prints were a monarch's signmanual. The permanent character of thumb prints was first put forward scientifically in 1823 by J. E. Purkinje, a professor of physiology, who read a paper before the University of Breslau, advocating a system of classification. His work was taken up by Bewick, an English draftsman, who made a number of impressions, and later by Sir Francis Galton and Sir William Herschel.

Q. How were men who committed crimes—for example larceny or forgery—punished in Milan in her heyday? T. I. T.

A. Sometimes a fine was imposed for larceny; at other times, the foot of the criminal was amputated. In cases of forgery the right hand was amputated as a rule. Burial alive was the fate met by some forgers.

Q. What is the penalty attached to the violation of the Tennessee

Anti-Evolution Law for which John T. Scopes was tried? J. F. B.

A. Section 2 of the act prohibiting the teaching of the evolution theory in all public schools of Tennessee, supported in whole or part by the funds of the State, provides: "That any teacher found guilty of the violation of this act shall be guilty of a misdemeanor and upon conviction shall be fined not less than $100 and not more than $500 for each offense."

Q. What kind of a whip is a knout? W. P.

A. This scourge, which was formerly an instrument of punishment in Russia, was composed of many thongs of skin interwoven with wire. One hundred or 125 lashes were considered equivalent to a death sentence, since victims rarely survived this punishment.

Q. When was the use of the pillory abolished in Massachusetts? R. J. M.

A. It was abolished in Massachusetts in 1839.

Q. Can a man be arrested for swearing? A. G.

A. In several States profanity is variously declared punishable by the statutes. In this connection it is interesting to note an old English law which had a sliding scale of penalties for this offense. "For each profane oath or curse a laborer, soldier, or sailor may be fined one shilling; other persons under the rank of gentleman, two shillings; a gentleman or anyone above that rank, five shillings."

Q. Will you please tell me what a cangue is? B. R. E.

A. This is a heavy wooden collar or yoke, worn around the neck by convicts in China as a punishment. It is sometimes combined with a cage.

Q. Who were the Jukes? R. L. P.

A. The Jukes were a family in New York State that had an unusual record for crime and pauperism. One of the Jukes sisters, Margaret, was known as the Mother of Criminals.

Q. Who was the first person to be electrocuted instead of hanged in New York? J. H. B.

A. The first man to suffer the death penalty by electrocution in New York was William Kemmler, who was executed in New York on August 6, 1890.

Q. Since it is claimed that the United States exceeds in the number of homicides annually, it be interesting to know which of the civilized nations has the lowest per cent. W. T.

A. According to a survey recently published the homicides of the United States, 1924, approximated 7.2 per hundred thousand; England and Wales .8 of one per cent; Italy 3.6 per cent; South Africa 1.8 per cent; Switzerland .2 of one per cent, the smallest record known of any nation.

Q. What was the torture of the boot? W. H. T.

A. The boot was an instrument of torture formerly in use to extort confessions from suspected persons, or obtain evidence from unwilling witnesses. It originated in Scotland, being known to have been employed there before 1600. The boot was made of iron, or wood and iron, and was fastened on the leg, wedges being driven between the leg and the boot by blows from a mallet. After each blow a question was put to the victim, and the ordeal was continued until he gave the information or fainted. There were also iron boots which were heated on the victim's foot. A less cruel form was a boot made wet and drawn upon the leg and then dried with fire.

Q. Do Delaware and Maryland still have whipping posts? A. C. S.

A. They are still in use in these States.

XX

CUSTOMS

Q. What is the origin of kissing? A. M. H.

A. According to Pliny, it was the opinion of Cato that kissing first began between kinsmen and kinswomen, in order that the former might know whether their wives or daughters had tasted wine.

Q. How did the custom of shaking hands originate? F. S.

A. Only a conjecture can be made. In the early days the weapon hand was bared and held out as a symbol of peace.

Q. What people eat the heartiest breakfast, the French, the English, or the Americans? R. T.

A. The French as a rule eat nothing until midday except a roll with a cup of chocolate upon arising. The English have a heartier breakfast, but even this the average American and Canadian would consider meager. On this continent, fruit, cereal, eggs or meat, some kind of bread and coffee is a usual breakfast.

Q. Do the foreign countries use Christmas wreaths? S. W. H.

A. The use of the Christmas wreath is believed by authorities to be traceable to the pagan custom of decorating buildings and places of worship at the feast which took place at the same time as our Christmas. The wreath is not used to such a great extent in Europe as in America, although decorations with evergreens are much used.

Q. When and where was the first cornerstone laid with ceremony? J. W.

A. The origin of this ceremony is of the greatest antiquity and according to ancient historians sacrificial rites were practised when laying a foundation of a building. Scripture references, (Authorized Version) are Joshua 6:26; Zechariah 10:4; 1 Kings, 16:34.

Q. Where did tarring and feathering originate? H. B. L.

A. It is thought that Richard Coeur-de-Leon invented it. When he sailed for the Holy Land, Richard made sundry laws for the regulation of his fleet. One of them was that "a robber who shall be convicted of theft shall have his head cropped after the manner of a champion, and boiling pitch shall be poured thereon, and then the feathers of a cushion shall be shaken out upon him, so that he may be known, and at the first land at which the ship shall touch he shall be set on shore."

Q. In the days of the Mayflower who were entitled to prefix Mr. and Mrs. to their names? B. N. G.

A. People who belonged to the class of gentlemen in England, ministers, physicians, and their wives bore these titles. If a man or woman was below the condition of gentility, but above that of a servant, the title "Goodman" or "Goodwife" was used by way of address. Only twelve of the Mayflower passengers had this title.

Q. When was the custom inaug-

urated of receiving the Diplomatic Corps first at the President's New Year's reception? F. A. B.

A. James Monroe consulted his Cabinet about the procedure and it was decided that for the reception on January 1, 1818, the members of the Diplomatic Corps should be received at 11:30, and the general public from 12 to 3 o'clock. This was the first time that a fixed time was arranged.

Q. How long have people dyed Easter eggs? T. J. G.

A. The custom of dyeing eggs at Easter can be traced back to very early times. Red was frequently employed, symbolizing the blood of Christ. Primitive persons used the juices of plants to dye the eggs.

Q. How long have author's readings been popular? B. N. G.

A. It is impossible to say definitely when this custom was established, but history records that Herodotus gave author's readings in Athens about 446 B. C.

Q. What is the origin of the peculiar cry of the Fascisti? M. W. D.

A. The Italian Embassy says that the Fascisti have adopted the cry "eja, eja, eja, alala" which the poet-warrior Gabriele D'Annunzio used during the recent war when in command of a squadron of airplanes called Serenissima after the Mediaeval Republic of Venice. D'Annunzio himself had renewed this cry which was used by the crews of the Venetian galleys in the Middle Ages.

Q. What was the old-fashioned ceremony known as the stubble-call? M. W. F.

A. Years ago in the Middle West, when wheat was harvested with sickle and rake, it was the custom, when the last shock was capped and finished to stack all the rakes around it, thrust the sickles into it, and then the whole company of harvesters formed a circle and at a signal given by the captain of the reapers, gave three cheers. They listened for the echo. If it replied three times, it was accounted a good omen for the next crop. This was known as the stubble-call. A blast of a horn from the cabin was heard in answer to it and the harvest was ended.

Q. Who first had the title of Prime Minister of England? E. M.

A. The title of Prime Minister of England was first used of Sir Robert Walpole, who was in office from 1721 to 1742. By this time, ministers were being chosen from one political party, and they had begun to act together so that they obtained the name of the ministry. Their leader was then called the Premier or Prime Minister. This title was not recognized by law until 1905.

Q. What is the origin of Hallowe'en? S. T.

A. Hallowe'en is a relic of pagan times. In England the influence of Druidicial ceremonies is evidenced in the ancient Hallowe'en fires. Certain of the customs which used to prevail in England were survivals of the festival of Pomona, the Goddess of Fruit. Hallowe'en is called by this name, because the festival falls on the evening of October 31, which is the eve of vigil of All Hallows, the festival of All Saints; this falls on November 1.

Q. Has the number of guns, twenty-one, comprising the military salute, any significance? H. L. C.

A. The origin of the custom of firing 21 guns for the international salute has been traced as follows: originally warships fired a salute of 7 guns, the number 7 being selected because of its mystical significance from antiquity. Although the salute at sea was 7 guns, shore batteries were allowed to fire 3 guns to the ship's one. The reason for this was that sodium nitrate was largely used in the man-

ufacture of powder. This was easily spoiled at sea, but could be readily kept on land. The multiplier 3 was selected probably because of its symbolism. With the development of the manufacture of powder, the number of guns for the international naval salute was made to correspond with that of the land forces. On August 18, 1875, a resolution adopted by the United States provided that salutes be returned gun for gun. At this time the British salute was already 21 guns, therefore this number was accepted by the United States.

Q. What country is known as the shadeless land? N. A.

A. Australia has been so-called. The leaves of some of the trees there are so arranged as always to present their edges to the sky, others have foliage composed of mere needles, and others dispense with leaves altogether.

Q. What is the origin and significance of the colored lights in drug store windows? W. S. C.

A. These lights originated in English apothecary shops. The streets were not lighted in the early days and the drug stores being an important place to locate in some emergencies, adopted the colored lights as a distinguishing mark.

Q. Why does one speak of something not wanted as a white elephant? M. W.

A. It was the custom of the King of Siam to send a white elephant to a courtier whose fortune he wished to destroy; hence something one has and does not know what to do with.

Q. Is it true that the daughters of the late Czar slept on camp beds? I. C.

A. Madame Dehn says that this custom was observed by the four Grand Duchesses. It dates back to the reign of Alexander I, who decreed that the daughters of the emperor were not to sleep on more comfortable beds until they married.

Q. How did the idea of an eagle as an emblem originate? When did America adopt it? L. B. W.

A. From the most ancient times the eagle has been universally regarded as the emblem of might and courage. It was associated with Jupiter in Roman mythology and its figure on the standards of certain Roman legions has descended to the national ensigns of the United States, Germany and Russia. The eagle was adopted by the United States in 1783.

Q. Why are bright colors used at Easter time? I. R.

A. Their use is symbolic of the rays of the aurora and the dawning hues of the Easter sun. Purple is largely used because from a very early period it was one of the most highly prized of all colors.

Q. Why did the Egyptians use beetles as settings for jewelry? I. C.

A. The scarab, a beetle, was regarded in Egypt as a symbol of immortality, and it was therefore placed on mummies as a sign of the resurrection. It was also a symbol of the sun god, and was widely used as a talisman by the Egyptians. Gem stones cut with the markings of the beetle are also known as scarabs and were used as talismans.

Q. Who established the custom of ringing The Angelus? A. R.

A. Saint Francis of Assisi.

Q. Is it a general custom to eat ham or bacon on Easter Sunday? J. W.

A. The custom of eating a gammon of bacon still exists in certain parts of England, and according to Aubrey (1679), was established by the people "to show their abhorrence to Judaism at that sol-

emn commemoration of our Lord's resurrection."

Q. Where did the custom of giving the hand to bind a bargain originate? B. I. F.

A. The reference to this custom is found in 2nd Kings, 10th chapter, 15th verse, of the Holy Scriptures, when Jehonadab gave his hand to Jehu in order to prove to him the justice of his cause.

Q. How did the ringing of the curfew originate? E. C. R.

A. The word is derived from the French couvrefeu—cover fire. The ringing of the curfew originated in England by William the Conqueror who ordered that at the ringing of the bell at 8 o'clock all lights and fires should be extinguished.

Q. How did the custom of touching or clinking glasses when drinking originate? M. C. D.

A. Roman gladiators were accustomed to drink a glass of wine before fighting. Two glasses of wine were brought by friends of one or the other gladiator, and to guard against treachery through the poisoning of the wine in one of the glasses the gladiators would pour the wine from one glass into the other until it was thoroughly mixed. Later it became a mere custom to show a friendly spirit between persons drinking together, and when the danger of poisoned wine was past the actual act of pouring the wine from one glass to another was changed merely to touching the glasses together.

Q. Is the origin of the hat band known? E. E. F.

A. The band on a man's hat is said to have its origin in medieval times, when a knight tied the scarf of his lady around his helmet.

Q. What does the difference in the way Hindus wear turbans signify? H. M. S.

A. So far as the turbans differ beyond the personal taste of the wearer they indicate the province from which he came, the weaves, dyes, etc., being highly specialized in different localities.

Q. Where did the custom of wearing orange blossoms at weddings originate? N. C. W.

A. The custom is of Moorish origin. Orange blossoms are symbolic of chastity and fecundity.

Q. Why are so many people married in June? J. J. D.

A. In the time of Ancient Rome, Juno, the wife of Jupiter, was the patroness of happy marriages. May, named for the Goddess Maia, was considered unpropitious, while March was named for Mars, the God of War and would therefore be a poor time to marry, since family disputes might follow.

Q. How did the idea of serving turkey on Thanksgiving Day originate? H. T. M.

A. In referring to records of the early colonists, we find that when Governor Bradford issued his proclamation that Thanksgiving be observed in 1621, in practical furtherance of the proclamation he sent out four men in search of game. The sportsmen returned carrying a burden of wild fowl which consisted principally of turkeys. In 1672 Josselin in New England Rarities speaks of the settlers bringing up "great store of the wild kind of turkeys;" thus it would seem that as this form of game was particularly plentiful in this part of the country the turkey continued to be the main feature of the Thanksgiving meal.

Q. What is the origin of the mourning band? D. S. J.

A. The custom of wearing a black band on the coat sleeve in token of mourning came from England. It was introduced there for liveried servants, whom it was not thought necessary to fit out in black uniforms.

Q. How did the half-masting of

the flag for mourning originate? W. D.

A. It is not possible to say just when, where and for whom the flag was first lowered to half-mast. The custom is said to have arisen from the old naval and military practice of lowering the flag in time of war as a sign of submission. Spanish ships in the 17th century displayed the flag at half-mast as a signal of distress. The custom of flying the flag at half-mast has long been recognized in practically all the leading countries as a sign of mourning.

Q. What privileges are gained when a British subject is honored with knighthood? G. T.

A. The conferring of knighthood in Great Britain does not imply any privilege other than the social one of precedence. A knight ranks next after a baronet. Neither dignity nor title can be transmitted to the heirs.

Q. How did the Safety First slogan originate? E. F. E.

A. The Bureau of Mines says that the phrase Safety First became a national slogan in the year 1911 when the Bureau of Mines gave a National Safety First Demonstration at Pittsburgh, Pennsylvania. Previous to this, the phrase Safety is the First Consideration was used on the stationery and among the employees of the H. C. Frick Coke and Steel Company of Pittsburgh, and the Illinois Steel Company of Chicago.

Q. Is it true that in some countries people are buried only for a time, then are disinterred and put in a bone yard? N. L. G.

A. The American Funeral Director says that in regard to temporary burials, the custom of dumping bones of human bodies after they have lain in an above-ground grave is practiced today in Cuba, and indeed in nearly all the Latin-American countries. It is not believed it is practiced in any other countries than those of Spanish origin.

Q. Do German children roll Easter eggs? A. R. A.

A. Our custom of rolling eggs at Easter is probably an importation from Germany where the egg-rolling begins at midnight on Easter-eve. Tracks made of sticks laid side by side are used by German children. They also roll little cakes and apples.

Q. What artist originated the poster? Y. R.

A. Edward Penfield, art editor of the Harper magazines from 1891 to 1907, was the originator of the poster in America.

Q. Why was the color royal purple chosen to denote power and prestige in ancient times? L. A.

A. Purple became associated with kings in the early days because it was the finest and most costly dye of the ancients. It was obtained from two kinds of shells found in the Mediterranean Sea. The ancients attribute its discovery to the Phoenicians and the story is that it was first discovered by a dog biting a purple fish. It is stated that in Caesar's time a pound of Tyrian purple wool cost above 1,000 denarii, which is roughly speaking equal to $217.50. Purple robes were used at an early date by the Greeks as a mark of dignity. Tyrian purple was introduced into Rome in the middle of the First Century, B. C., and from that time it became a luxury. Its use was checked by imperial decree. A complete robe of blatta, the finest kind of purple, was reserved as an imperial privilege, and any private person wearing it was punished as being guilty of high treason.

Q. Who was the first man to shave? M. E. R.

A. The custom of shaving can be traced back to antiquity. The Egyptians commonly shaved except when in mourning. In Greece,

Alexander the Great ordered his soldiers to shave off their beards so that their enemies might not seize them. The custom was introduced into Rome about the same time. In Europe razors were used in France and Spain, and in England before the 18th century.

Q. What is the origin of Xmas? K. L. C.

A. The X used in the abbreviaion Xmas is derived from the fact that Christ was crucified. The symbol of the cross was thus introduced into the word Christmas. The custom is so ancient as to be lost in antiquity.

Q. How do Christmas waits dress in England? H. M. C.

A. Now-a-days these Christmas serenaders do not appear in costume. In olden times they wore blue gowns with red sleeves and caps and a silver collar or chain about the neck.

Q. When in Ireland some time ago I noticed certain people wore a gold ring on their dresses. What does this mean? N. E. S.

A. This was to show that they spoke Irish and wished to be addressed in the Irish language. The action of the Dail Eireann in making Irish the official language of their first meeting—nothing else being spoken on that day—gave it a great impetus in popular estimation.

Q. Of what faith are people who cover mirrors as a sign of mourning? W. C. W.

A. It is an article of Jewish ritual that for the seven days succeeding the burial, all mirrors should be covered and no shoes should be worn by those who are not obliged to conform to modern custom.

Q. Why is a girl kissed when caught under the mistletoe? R. C. O.

A. Authorities differ somewhat concerning the origin of the custom of kissing under the mistletoe. Walsh is of the opinion that it is an innocent survival from the Saturnalia of the ancients when riot and license ran loose. Other authorities claim that it is a survival of the ancient Druids of Britain. The mistletoe is believed to have been given to the Goddess of Love to keep, and everyone who passed under it received a kiss to show it was the emblem of love. The Druids cut the sacred mistletoe and hung it over the doorways to propitiate the woodland spirits. According to myth, only happiness could enter under the mistletoe; hence the tradition of the kiss.

Q. Is the celebration of Christmas general? A. A. E.

A. Although the celebration of Christmas was at one time forbidden by the Puritans, it may be said that it has been generally observed throughout Christendom for many years. It is regarded as the feast of the Protestant, Roman Catholic and Greek churches. Such customs as those of having a Christmas tree, decorating with holly and mistletoe, are almost universal. In many European countries carol singing is a feature.

Q. Was the celebration of Christmas ever forbidden in this country? A. D. F.

A. Robert Haven Schauffler, in his book called Christmas, says that Puritanism brought over with it in the Mayflower the anti-Christmas feeling to New England. In 1659 the General Court of Massachusetts enacted "that anybody who is found observing by abstinence from labor, feasting, or any other way, any such day as Christmas day, shall for every such offense be fined five shillings."

Q. Why are holly and other greens used at Christmas time? C. M. C.

A. It is generally conceded that some of our Christmas customs are survivals of the earlier Roman

Saturnalian festival. Holly, box, ivy, laurel and bay adorned the Roman houses at this time. It is true, however, that the Druids kept a winter festival, when the priests sent sprigs of holly to each rude Briton hut, partly as a peace offering, partly as a reminder to decorate the home with it and thus encourage sylvan spirits to enter and drive away frosts and winter.

Q. What country used Christmas trees first? C. H.

A. The Christmas tree is from Egypt, and its origin dates from a period long anterior to the Christian Era. The palm tree is known to put forth a branch every month and a spray of this tree, with 12 shoots on it, was used in Egypt at the time of the winter solstice, as a symbol of the year completed.

Q. How long have eggs been associated with Easter? E. V. B.

A. The use of eggs at Easter time is the result of a custom of greatest antiquity, the egg having been considered in widely separated pre-Christian mythologies as the symbol of resurrection. It is probable that the Christian church adopted and consecrated an earlier custom. The egg is generally regarded as the symbol of spring, life, and fecundity of nature.

Q. How long has Labor Day been observed? C. K.

A. The celebration of Labor Day was inaugurated by the Knights of Labor with a parade in New York in 1882. The first law making the day a legal holiday was passed in Colorado in 1887.

Q. What is the origin of April Fool's Day? D. T. P.

A. The custom of sending people on bootless errands or making them victims of practical jokes on April 1 has existed in European countries for many centuries. The custom seems to have been unknown to German antiquity, however. Grimm regards it as having been introduced into Germany from France. Various theories have been held as to its origin. One writer traces the custom to the miracle play formerly presented at Easter which sometimes showed the sending of Christ from Annas to Caiaphas and from Pilate to Herod. Another finds the origin in some ancient pagan festival, such as the Huli festival held by the Hindus on March 31, or the Feast of Fools, celebrated by the Romans on February 17.

Q. What State first observed Arbor Day? F. J. P.

A. The pioneer Arbor Day State is Nebraska, where the observance began in April, 1872.

Q. Why are the days of the week named as they are? W. M. R.

A. Sunday was anciently dedicated to the sun. Monday comes from an Anglo-Saxon word meaning day of the moon. Tuesday is from the Anglo-Saxon word Tiwesdag, derived from Tiw, god of war and dag, meaning day. Wednesday is from Woden or Odin, the highest god of the Germans and Scandinavians. Thursday was originally consecrated to Thor, the god of thunder. Friday is from frigedag, a derivative of Frig, the goddess of marriage. Saturday is from Saturn. The Anglo-Saxon form was Saterndag.

Q. When is Father's Day? S. P. A.

A. The third Sunday in June has been set aside as Father's Day. Mrs. John Bruce Dodd was the founder of this day and the Y. M. C. A. and Ministerial Association of Spokane, Washington, brought her idea to the attention of people throughout the country. Father's Day was first celebrated in Spokane in 1910.

Q. What saint is Valentine's Day named for? B. P.

A. Valentine was the name given to several saints and martyrs of the Christian Church. According

to the Acta Sanctorum, on February 14, is observed the day of seven of them. St. Valentine's Day is famous, however, as a lover's festival, which accounts for the hearts, cupids and darts, used in the celebration of this day, which appears to have no connection with the saints other than the name. It is thought to be the survival of an old festival of a similar nature in the Roman Lubercalia. It was observed particularly in England and to a certain extent upon the continent too; mention of it is found in Chaucer.

Q. How long have we celebrated Decoration Day? C. A.

A. Shortly after the Civil War a day was set aside as Memorial or Decoration Day in honor of the soldiers and sailors who fell in the Civil War. It is usually observed by processions and orations in honor of the dead and by decorating the graves with flowers. Originally different days were selected for this purpose in various States, but later, May 30th, was set aside and made a legal holiday in many States. Confederate Memorial Day is observed in the South. When Memorial Day falls on Sunday, it is generally observed on Monday.

Q. Why is Easter so-called? H. W.

A. The name Ostara or Easter was the name given by the ancient Norsemen to that season of the year in which the Festival of Ostara, Goddess of Life and Spring, was celebrated. Although, since the time of Christ, Easter has come to have a very different significance, for the majority of peoples the old name has still held.

Q. When did the custom of funeral sermons originate? D. S.

A. The custom of funeral sermons, together with various other rites in connection with the burials, may be traced back to antiquity. Even the primitive peoples had certain ceremonies in connection with the burial of their dead. In ancient Greece and Rome, the custom of elogizing the dead was very popular.

Q. Why is it thought to be unlucky to light three cigarettes with one match? C. S. W.

A. This superstition has its origin in the fact that in the old Russian funeral service three altar candles were lighted from one taper. It was considered an act of impiety to make any other lights in groups of three, and therefore ill luck would follow such an act.

Q. Is kissing a universal custom? D. H.

A. Kissing as a form of greeting and affection is comparatively recent. The habit of kissing is unknown to the Polynesians, who greet by pressing noses. The Laplanders also apply their noses against the person they wish to salute. In Otaheite we are told that they rub their noses together and, of course, we all know this is the favorite form of greeting and affection among the Eskimos. Neither the Japanese nor the Chinese kiss. In many African tribes the natives kiss the ground over which a chief has trod. In Australia, kissing the ground or rather breathing upon it, is a form of greeting among various peoples. Lombroso tells us that kissing is a Caucasian habit and that Orientals are strangers to it.

Q. When did the custom of sleeping on wedding cake originate? R. M. S.

A. The exact origin of the custom of sleeping on a piece of wedding cake is obscure. It has been traced back to the early Britons and is found not only in England, but in almost all European countries.

Q. Where did barbecue originate? J. Y.

A. The barbecue is an institution of Southern origin, and the word is said to have been used in Virginia prior to 1700.

XXI

DAIRY PRODUCTS

Q. How much milk does the average person drink daily? M. C. C.

A. In 1925, a new high mark was reached, when the per capita consumption of milk and cream was 1.2 pints daily. The total amount consumed in fluid form was 54,326,000,000 pounds. In 1924, the total was 52,782,000,000 pounds.

Q. While in Paris we were served perfumed butter. How is it made? K. C.

A. The perfumed butter used in Paris is made by taking pats of fresh or unsalted butter and placing them on a layer of some variety of flowers, according to the perfume desired, a piece of muslin being laid between the butter and blossoms. Another layer of flowers is placed above the butter and then ice is added.

Q. What is the record for milk production for one cow? H. H.

A. The Department of Agriculture says that De Kol Plus Legis Dixie, a Holstein Friesian, holds the world record for milk and butter fat, producing 33,464 pounds of milk and 1,349.3 pounds of butter fat in one year.

Q. What makes Limburger cheese smell as it does? C. H.

A. The unpleasant odor of Limburger cheese is due to specific fermentations induced during ripening. This cheese is made from sweet milk, the curd being formed into cakes about 5 inches square and 2 inches thick and not pressed. The main cause of the putrefactive fermentation is the extremely moist condition in which it is kept.

Q. Would it be possible for milk to be carried across the continent by airplane without souring? A. M. P.

A. Such an experiment was made during a certified-milk scoring contest held in Atlantic City, New Jersey. During this contest milk was received in Atlantic City by air mail from a certified dairy located near San Francisco, California. The milk was drawn from a cow in California on a Friday evening and received in Atlantic City on the following Sunday morning. The container was well insulated and no material change in temperature or quality was noted.

Q. How much oleomargarine has been consumed in one year in the United States? B. S.

A. We consumed more in 1920 than in any year previous or since, the total number of pounds being 368,783,386, or a per capita consumption of 3.49 pounds per year.

Q. What is the difference between sterilization and pasteurization of milk? E. O. O.

A. Sterilization is a process by which the temperature of milk is raised high enough or maintained long enough to destroy all germs and spores. This method is seldom employed because it gives the milk a boiled taste. In pasteurization the temperature used is high enough only to destroy most germs,

including disease germs such as those of tuberculosis and typhiod.

Q. Is it true that a statue of the Prince of Wales was modeled in butter for the Exposition at Wembley? D. F. A.

A. Such a statue was made by G. D. Kent and Beauchamp Hawkins. The background is an accurate reproduction of His Royal Highness' ranch at Alberta. Two and one-half tons of Canadian butter were used for it and a special refrigerating plant keeps the work in condition.

Q. Is cream pure fat? L. B.

A. Cream is not pure milk fat, but contains also some of the other substances in milk.

Q. What can be put into cream to make it whip? R. F. R.

A. There are preparations on the market which can be purchased at most grocery stores to add to thin cream to make it whip easily. Thin cream will sometimes whip better if the white of one egg is added or two whites if there is a large amount of cream.

Q. Why is clabber so-called? L. D. E.

A. It is derived from the Irish "claba" meaning thick mud. An old provincial name for milk in this process of souring was "bonnyclabber", "bonny" being an adaptation of the Irish "Bainne" meaning milk.

Q. Why will some cream whip while some will not? M. S.

A. The kind of cream, its age, its butter-fat content, and its temperature influence the whipping quality of cream. Cream to whip well should be very cold, from 24 to 48 hours old, and contain at least 30 per cent butter fat.

Q. What fats are used in the manufacture of butter substitutes? A. J.

A. At the last report the fats used were sesane oil, peanut oil, oleo oil, neutral lard, butter, cocoanut oil, corn oil, mustard oil, and edible tallow.

Q. How is sweet cream butter made? A. N.

A. It is made from fresh sweet cream that has been pasteurized and then churned without ripening or souring. It has a mild, sweet, creamy flavor and does not develop strong flavors nearly so quickly as butter made from sour cream.

Q. How warm can milk be and still retain all of its raw qualities? E. O. S.

A. Milk can be heated to approximately 145 degrees Fahrenheit without losing its raw qualities.

Q. Is buttermilk fattening? E. R.

A. It is not considered fattening. By action of the organisms in buttermilk the milk sugar is used up and thereby reduces some of its fattening power.

Q. How much butter fat should cream contain that is sold to a creamery? R. H.

A. The Department of Agriculture says that about 30 per cent butter fat is the recommended standard for the delivery of cream to a creamery. If the test is lower, there is less skimmed milk left for use on the farm and the cream is more apt to sour.

Q. Are the vitamines in milk destroyed when it is heated? W. N. E.

A. Vitamines A and B are not easily destroyed by heat. Milk can be pasteurized, sterilized, and dried without affecting them. Vitamine C, however, is affected by heat and an infant fed on processed milk should also have an efficient anti-scorbutic such as orange juice or tomato juice.

Q. Is milk food or drink? H. R. S.

A. Dr. Rosenau says that milk is not a beverage and should not be used to quench thirst. It is a food and should be taken slowly.

Q. Is cheese ever made from reindeer milk? E. J. G.

A. In Norway and Sweden the milk of the reindeer is sometimes used for cheese-making.

Q. What germs does the pasteurization of milk destroy? D. M. D.

A. When the process is properly performed, it destroys the organisms of typhoid fever, diphtheria, septic sore throat, and dysentery, and gives protection against the foot-and-mouth disease.

Q. Of the milk produced what amount is fed to calves? W. B.

A. Calves, the natural consumers of cows milk, get but 4 per cent of the supply. Different manufactured products take 46.9 per cent; 46 per cent is used for household purposes; and a small percentage is wasted.

Q. What part of cow's milk is water? P. T. D.

A. More than four-fifths or 87 per cent of milk is water and the remainder is milk, sugar, fat, and protein.

Q. Should more soda be used with very sour milk than with milk that has just turned?

A. It is important that the soda be graduated according to the sourness of the milk.

Q. Which is heavier, a quart of milk or a quart of cream? E. R.

A. A quart of milk is the heavier. This is explained by the fact that there is more fat in cream than in milk, and that fat is lighter than liquid.

Q. How do sweet and sour milk compare as to food value? W. P. D.

A. Sour milk, sweet milk, and buttermilk are all good food and have practically the same food value.

Q. Is a milk cure a modern remedy for various ills? F. S.

A. Milk cure—that is, a diet consisting at first of milk only—is a very old remedy, since it is mentioned by Hippocrates who lived from about 460 to 357 B. C.

Q. Has milk drinking increased since Prohibition? W. F.

A. The consumption of milk per capita in the United States from 1918-24 was:—1918, 43 gallons; 1919, 43 gallons; 1920, 43 gallons; 1921, 49 gallons; 1922, 50 gallons; 1923, 53 gallons; 1924, 54.75 gallons. The Department of Agriculture says the increase is due to improvement in quality of product, delivery in sanitary containers, and a general increase in knowledge of the value of milk in the diet, the result of milk campaigns and special advertising.

Q. Is it necessary to dry milk cans? C. S. S.

A. Bacteria increase much more rapidly on wet cans. The cans should be steam-sterilized and dried.

Q. Has milk sent abroad been known to be sweet on arrival? J. H. C.

A. Milk was sent to the Paris Exposition in 1900 by private dairies. The Fairfield Dairy, Clover Dairy and the Briarcliff Dairy of New York, New Jersey, and Illinois sent milk each day to Paris and with two exceptions the milk arrived pure and sweet, some remaining sweet for 17, 18 and 20 days. Each dairy was awarded a gold medal.

Q. What is Jack Cheese and where did it originate? J. K.

A. Jack Cheese, sometimes known as Monterey cheese, originated in Monterey County, California and was first made about 1892. The method grew out of a need for

disposing of surplus milk at a small expense for equipment and because of this fact, it can be made on farms where only a small amount of milk is available.

Q. What is cheddar cheese? A. V.

A. This is the most common American or New York cream cheese. Originally chadder was an English cheese, to which this hard, yellow American cheese is similar.

Q. What part of the price of a quart of milk goes to the dairy producing it? R. M. C.

A. About 50 per cent of the retail price is received by the milk producers. The split between producers and distribution agencies runs about the same in most cities that have made a survey. Producers receive 7 1-4 cents on a 15 cent quart of milk delivered on routes by distributors or sold through single unit groceries and delicatessens and 6 3-4 cents on a 13 cent quart sold through chain stores.

Q. How is oleomargarine made? T. K. L.

A. Oleomargarine is artificial butter. It is made by straining melted beef fat and allowing it to stand at 24 degrees. Much of the stearin crystallizes out and the remaining liquid (the oleomargarine) is pressed out and allowed to solidify. The solid is finally mixed with a little oil, to render it softer and is churned with milk to impart the proper flavor. Although it lacks the butyrin, the product is similar in the chemical nature to butter.

Q. Are there some cheeses in which the holes are made by worms? J. C.

A. The Bureau of Dairying does not believe that there is any cheese in which the holes are made by worms. Most cheese in which holes are found is made in such a way as to develop gas which produces a specific organism which causes holes.

Q. Does thunder cause milk to sour. T. C. D.

A. It does not. However, milk will sour in any kind of warm and moist temperature and because just before and during a thunderstorm the air is generally quite warm and moist, milk will sour more quickly than under normal conditions.

Q. Will sweet milk curdle? P. C.

A. Such a condition is occasionally found. During a hot dry spell particular care must be taken to prevent such fermentation. It is brought about by a variety of organisms or bacteria which cause milk to coagulate without the production of a rennet-like enzyme, which acts directly on the albumin and casein in the milk.

Q. Please tell me how to make a substitute for whipped cream. R. M.

A. Beat the whites of two eggs until very stiff and dry. Add slowly to ½ cup of condensed milk, beating constantly. Heat ¼ pound marshmallows in double boiler until soft, then add them to milk and egg. Flavor to taste.

Q. Is malted milk nutritious? Of what is it composed? R. R. T.

A. Malted milk is a combination of dried milk powder with red dog flour which has been treated with malt so that the starch thereof has been largely converted into maltose sugar. While red dog flour is considered the lowest grade of flour produced, it contains more vitamins and minerals by far than refined white flour. Dried milk when properly prepared, has lost very few of its vitamins and practically none of its nutritive value. This combination called malted milk has all the nutritive value of milk and red dog flour from which it is prepared.

Q. How is English cream cheese made? L. F. F.

A. Very thick cream is poured carefully into a linen bag and this hung up, with a basin underneath to catch the whey, in a cool room

or cellar. The air in the room must be pure, as the cream easily absorbs odors. When the whey is partly drained off, the bag is twisted tight and bound so as to dry the curd more; then, after 24 hours to 48 hours, according to temperature and the consistency of the cream, the cheese is ready to eat, and may be molded as desired. This is hardly cheese, as no rennet is used. Perhaps it should be called a sour cream curd.

Q. What is meant by homogenized milk? D. P.

A. Such milk has been forced through a sieve fine enough to break up the fat globules.

Q. How can a person tell butter from oleomargarine? C. E. S.

A. Melting a bit of the fat is a simple test. Hold a teaspoon containing it over a flame. If it is butter the liquid will foam. Oleomargarine will not.

Q. How long will cottage cheese keep? E. C.

A. Cottage cheese is quite as perishable as milk and, therefore, can not be kept for any length of time without the aid of refrigeration. Cottage cheese is sometimes kept for six months when put in cold storage where a temperature of 0 degrees F. is maintained.

Q. What is spun butter? E. C.

A. Butter drawn out or worked into thread-like form, usually for ornamental purposes, is called spun butter.

Q. What is the difference between condensed and evaporated milk? C. M.

A. It is a difference of sugar content and method of preparation. Condensed milk is preserved by adding sugar before evaporating. Evaporated milk is made by evaporating part of the water and preserving by heat after the product is in the final container.

Q. Will frozen milk make children sick? H. C.

A. Authorities say that when milk freezes the solids and the watery substances separate, giving it an insipid taste, but there is no chemical change, and they therefore see no reason why such milk should make children ill.

Q. What is used to color butter? H. T. B.

A. The coloring matter usually added to butter is annatto.

Q. Is there anything to put in butter to make it white? J. H. F.

A. The Bureau of Dairying says that so far as it knows there is nothing that can be put in butter before it is churned to give it a white appearance. In winter when the cows are on dry feed the butter is much lighter in color than in summer when green feed is used. On the other hand it is customary in winter to add some coloring substance to the cream before it is churned in order to give it a rich color.

Q. When cream is changed to butter is there a physical or chemical change? D. L. R.

A. The Dairy Division says when cream is changed to butter it is a physical change.

Q. How much of the money spent for food goes for milk, butter and other dairy products? H. M.

A. The Department of Agriculture says that their last survey was made in 1918. Then a little more than one-fifth of the money spent for food went for dairy products. Of this amount two-thirds went for milk and a little less than one-third for butter. The small remainder includes cottage cheese and buttermilk.

Q. What part of milk is whey? M. E.

A. Whey is the watery part of milk left from cheese-making.

XXII

EDUCATION

Q. How much does it cost to teach a single public school pupil? G. E. Q.

A. The amount of money required to teach a pupil in the elementary grades has been estimated at $37.12 for one year. For public high school it is estimated at $145.25 per year.

Q. In which of the large cities of the United States is the smallest degree of illiteracy found? N. E. S.

A. Taking into consideration cities having more than 100,000 population, Spokane, Washington, has this distinction, only eight-tenths of 1 per cent of the total population being illiterate.

Q. Where is the smallest college in America? R. T. L.

A. Probably it is Dropsie College in Philadelphia. It is a co-educational school, and has 23 students and 6 teachers.

Q. What was the first agricultural school? T. M. C.

A. The two earliest agricultural colleges to be established were at Hofwyl in Switzerland and Krumau in Bohemia in 1797. The first professorship of agriculture in a collegiate institution in this country was held by Samuel L. Mitchill of Columbia College and was established in 1792.

Q. Isn't the Red Cross interested in the Evergreen School any longer? S. S.

A. While the Evergreen School for the Blind has been taken over by the Veterans' Bureau, the Red Cross still cooperates with it and there have been few changes in the personnel or policy of the institution.

Q. Where was the first normal school? F. W.

A. The first normal school in the world was established in Vermont.

Q. Are children compelled to attend school all the year 'round under the Gary plan? O. M. McC.

A. Such schools are open the year around, or for four quarters of 12 weeks each, and pupils attend school for three of these quarters, choosing for vacation the one that suits them and the home best. During the free quarter the pupil may attend voluntarily any of the activities of the school.

Q. Should a child who is left-handed be made to write with the right hand? W. D. D.

A. The Bureau of Education says it is a matter of opinion as to whether or not left-handed children should be forced to use the right hand in penmanship. Some theories advocate this, claiming that such training adds to brain development.

Q. How many land-grant colleges are there in the United States? C. L.

A. There are now 68 colleges which participate in the appropriations under Federal legislation. Of these institutions, 17 are exclusively for colored persons. All

States and Alaska, Hawaii, and Porto Rico receive $50,000 annually from the Federal Government for their land-grant colleges.

Q. How many students earn money while attending college? H. T.

A. At the University of Chicago there are about 50 per cent of the men working their way through college either in whole or in part and about 25 per cent of the women. Statistics for all colleges are not available.

Q. How long have there been night schools in this country? R. T.

A. The first successful evening schools in this country were established about the middle of the 19th century, although an attempt without permanent results was made in New York in 1834.

Q. Can a foreigner go to the United States Military Academy? E. W.

A. A foreigner is not allowed to enter the United States Military Academy at West Point unless a special act of Congress provides for this entrance.

Q. When were public schools started in Scotland? J. D. W.

A. Elementary schools were established in Scotland by the provisions of the Elementary Education Act of 1872. Prior to that, however, education had been regulated by the Scottish Parliament. As early as 1696 an act was passed for settling schools, providing for the maintenance of a school in every parish in connection with kirk.

Q. Is after-dinner speaking taught at the Naval Academy? L. T. M.

A. A course in after-dinner speaking has been given there for a number of years. Members of the first class receive instruction and are given opportunities to practice in connection with the regular Academy mess. The plebes receive the same opportunities in their recitation rooms.

Q. At what ages must children attend school? M. L.

A. Compulsory school attendance ages vary in different States. In no State are children compelled to start to school before the age of six. New Mexico and Ohio are the only States which specify this early age. In several of the southern States attendance is not compulsory after children are 14; a few States set 15 as a limit; while about thirty States require attendance until 16 years of age; a few States say 17; and several 18.

Q. What are moonlight schools which are established in Tennessee? F. S. H.

A. The moonlight schools in the mountains of Kentucky and Tennessee refer to the schools which have recently been opened for the purpose of teaching the illiterate adults of those States to read and write. These schools are conducted in the evening, hence called moonlight schools.

Q. Is Henry Ford running a school for boys? Does he pay the students? I. M. C.

A. Mr. Ford has opened a shop school for boys of 12 to 18 years of age in connection with his plant at Detroit. The boys are picked from those who would have to leave school at an early age because of family finances. The students' time is divided between classroom instruction and shopwork and they are paid for work done in the shop.

Q. Do foundations organized for the purpose of loaning money to boys and girls for a college education have any trouble in collecting their notes? S. T.

A. Loans granted to students on a character basis and for the purpose of study are reported by

the Harmon Foundation to be good pay. More than 40 per cent of the $26,385 loaned to students during the year 1922-23 has been paid, though according to agreement only 29 per cent was due on February 1, 1925. The foundation reports that not a single account is likely to default.

Q. How many cities have adopted the platoon plan in their schools? H. M. C.

A. Ninety-nine cities in 32 States have one or more schools organized according to the work-study-play or platoon plan. During the past year the Department of the Interior, Bureau of Education, has received requests from every State in the Union except three for information about the platoon plan.

Q. How long have we had reform schools in this country? T. C. B.

A. The first reformatory managed under legislative control was the one established in New York in 1824, known as the New York House of Refuge.

Q. Is Harvard a college or a university? T. C. R.

A. This institution is now a university, although it retains for its legal name and academic department the title of college. The state constitution that refers to Harvard is older than the American Constitution and the name of its founder was familiar long before that of George Washington.

Q. How many schools in the United States have courses in journalism? R. R.

A. There are 22 universities in which schools of journalism have been established or in which a comprehensive curriculum in journalism has been organized.

Q. Where is the university to be located that is patterned after English universities? G. A. C.

A. A new educational institution in Claremont, California is being established which will be patterned after Oxford and Cambridge and will be a group of colleges rather than one college. Pomona College at Claremont will be the nucleus of the new home of learning. Other colleges, each distinct from the other, will be grouped on the Claremont campus. Each school will have its own faculty, but the entire group will be under the general supervision of nine directors, three of whom will retire each year.

Q. When was Oxford University founded? W. W. F.

A. There are legendary stories of its formation by King Alfred. As early as 1117 there are notices of continental scholars lecturing at Oxford and it was certainly a center of learning in 1185. Cambridge is probably almost as old, although its origin is also obscure.

Q. Does the Government require eight years service from boys who enter West Point? T. C. B.

A. The graduates of the United States Military Academy at West Point and the United States Naval Academy at Annapolis make an agreement upon entering the academies that they will serve a period of eight years, four years of which is the schooling at the academies and four years' service upon graduation. However, in special circumstances resignations are accepted before the termination of this period.

Q. How many farmer's children do not receive high school educations? I. H.

A. The Bureau of Education recently made a survey of six States in the various sections of the Union and it found that less than 29 per cent of farmers' children of high school age (15-19 years) were in accredited high schools and that less than 32 per cent were in any kind of a high school.

Q. When were college degrees first awarded? P. A.

A. The degree, an academic rank or title, originated in the medieval universities. Scholastic distinctions of an analogous nature seem to have existed in ancient times. In the latter part of the classical Greek period education was well organized into inferior and superior courses and there evidently existed some recognized proof that such courses had been completed. The degree as a university distinction originated at Bologna and Paris during the 12th Century and the titles "master" and "doctor" signified at first nothing more than a license to teach.

Q. How many children are there in schools for feeble-minded? T. G. T.

A. In 1922, 214 schools for feeble-minded reported a total enrollment of 63,399.

Q. What is the oldest school of science in America? S. A. J.

A. Rensselaer Polytechnic Institute is the oldest, founded in 1824 by Stephen Van Rensselaer, Patroon of Rensselaerwick. It was dedicated by him to the common purposes of life. It was also the first institution to offer a course in agriculture leading to a degree.

Q. Where were manual training schools first started? M. H.

A. Finland holds the honor of the earliest use of handwork as an agency in education, having developed a plan for teaching handwork in primary schools between 1858 and 1866. Sweden followed in 1872, France in 1873, England in 1886, and Germany in 1887. In the United States the first steps in this direction were taken in New York City in 1878.

Q. Can a college have a professional for a coach? R. J. N.

A. A professional player may coach a college team in any sport.

Q. Are there any States that do not have public kindergartens? C. C. H.

A. All the States of the Union except Georgia, Mississippi and Arkansas provide for the maintaining of kindergartens in connection with the public schools.

Q. How many American men of today are college graduates? How many of these men are political leaders? N. O.

A. The Nation's Business says that in spite of the fact that less than 1 per cent of American men are college graduates, this 1 per cent has furnished 55 per cent of our Presidents, 36 per cent of our Members of Congress, 47 per cent of the Speakers of the House, 54 per cent of the Vice Presidents, 62 per cent of the Secretaries of State, 50 per cent of the Secretaries of the Treasury, 67 per cent of the Attorneys General, and 69 per cent of the Justices of the Supreme Court.

Q. In judging the merit of a college or university, what facts should be taken into consideration? A. K. M.

A. Generally speaking, a school may be judged by the number of professors who devote all of their time to the school, by the courses offered, by the number of absences allowed each pupil in his courses, by the number of subjects in which a student is allowed to fail without being required to repeat the entire year's course. Entrance requirements and endowments also figure in the ranking of schools.

Q. When was the College of William and Mary founded? C. M. S.

A. The charter for the College of William and Mary was granted by King William and Queen Mary on February 8, 1693. The foundation of the main building was laid the following year and classes were

opened immediately. By 1729 the college had a full faculty.

Q. Have different churches ever joined in maintaining a college or other educational institution? T. N. M.

A. The Intermountain Union College, Helena, Montana, founded in 1889, is under the control of the Methodist and Presbyterian churches.

Q. What per cent of the boys who enter West Point are graduated from the institution? H. D. B.

A. Since its establishment in 1794, about 55 per cent of the entrants have been graduated.

Q. Give dates of several of the old Italian universities. G. C. M.

A. The oldest Italian Universities are Bologna, founded c. 1100; Padua, 1222; Naples, 1224; Genoa, 1243; Perugia, 1276; Macerata, 1290. There were nine more founded between 1300 and 1550. During the Middle Ages Italy was the greatest resort for students seeking higher education.

Q. Do Jewish rabbis ever teach in Christian colleges? A. H.

A. The Federated Council of Churches has recently issued the statement that Jewish rabbis are lecturing in Protestant theological seminaries on race relations as exchange professors. Christian ministers are speaking at Jewish colleges and institutions on the brotherhood of races.

Q. When were schools first graded? R. A. H.

A. The Brethren of the Christian Schools, an order founded by La Salle in 1683, first employed the system of grading in elementary instruction and introduced the methods of teaching classes instead of teaching individuals.

Q. How many colleges and universities in the United States have endowments of $1,000,000 or more? F. J. W.

A. There are 135 which have endowments of such size.

Q. Are there any colleges in the United States that hold sessions throughout the year? J. M. C.

A. The following schools have the four quarter system: Alabama College (for women); University of Colorado; University of Montana; Montana State College; College of Industrial Arts (Denton, Texas); University of Utah; Agricultural College of Utah; University of Washington; Leland Stanford Junior University; Valparaiso University; University of Chicago; Ohio State University.

Q. Do the Finns give an important place to athletics in college? F. A. S.

A. College athletics do not exist in Finland. Athletic societies are the force that has built up the interest in sport. The central society, the Finnish Athletic and Gymnastics Union, spent four years gathering the money to send 54 competitors to Paris in the summer of 1924 for the Olympic games.

Q. Are Johns Hopkins University and Johns Hopkins Hospital the same institution? N. K.

A. They are separate institutions founded and endowed by Johns Hopkins. Johns Hopkins Medical School is part of the university and is closely allied with the hospital. The total gift for these institutions was more than $7,000,000.

Q. Has Princeton University always been so-called? J. P. H.

A. When chartered in 1746 this school was known as the College of New Jersey, and was located at Elizabethtown. It was moved to Princeton in 1756, but it was not until October 22, 1896, that the corporate title was changed to Princeton University.

Q. How do the great universities of the United States rank in endowment? D. C. D.

A. Harvard has the largest endowment; then Columbia, Yale, Chicago and Leland Stanford, Jr., Cornell, Johns Hopkins, Carnegie and Princeton.

Q. When was Cambridge University founded? F. E. K.

A. The origin of Cambridge University is obscure. It probably grew out of a local educational movement during the 12th century. The first of the colleges was founded by Hugo Bishop of Ely in 1257. At present 17 colleges compose the University.

Q. What is the School of Military Cookery? D. E. V.

A. This is an institution at Aldershot. The purpose is the training of men of the regular army, militia, imperial yeomanry and volunteer force, as practical cooks.

Q. Whose idea was it to have at Columbia University an International House, and what religions are represented? D. E.

A. The idea was that of Mr. and Mrs. Harry Edmunds. Brahmanism, Buddhism, Christianity, Confucianism, Judaism, Hinduism, Jainism, Islamism and Zoroastrianism are represented.

Q. What is the purpose of the United States Bureau of Education? S. T.

A. The act of creating the United States Bureau of Education defines its purpose and duties as those of collecting such statistics and facts as will show the condition and progress of education in the several States and Territories and of diffusing such information respecting the organization and management of schools and school systems and otherwise promote the cause of education throughout the country.

Q. What were or are the six accomplishments? G. L. A.

A. The traditional Chinese social system recognized four main classes below the priest-emperor, of which the first was the literary class. In the time of Confucius the education of the literary class included what was known as the six accomplishments — archery, horsemanship, rites, music, history and mathematics.

Q. Has a census of illiterates been taken lately, or will one be taken in the near future? H. L. C.

A. In a campaign to reduce illiteracy in the United States a complete census of illiterates is being taken. The census is to be made by the General Federation of Women's Clubs. This organization is co-operating with the Bureau of Education in an effort to reduce illiteracy in the country before the 1930 census. The American Federation of Labor has also agreed to assist in the campaign. Among other national associations taking part in the campaign are the Chamber of Commerce of the United States of America, the American Red Cross, and the American Legion. The Daughters of the American Revolution and the National Society of Colonial Dames of America, have the matter under advisement and are expecting to give the whole program support. The plans call for the completion of the census of illiterates by November, 1926.

Q. What State has done the most in the last 25 years to erase illiteracy? M. P.

A. In comparing 1900 statistics with those of 1920 we find that Alabama has done the most to decrease the percentage of illiterates.. From a percentage of 34.00 in 1900, it has dropped to 16.07 in 1920.

Q. What proportion of our foreign-born population is illiterate? M. C. M.

A. There are 13,712,754 foreign-born people in the United States. Of that 1,763,740 are illiterate, or about 12 per cent.

Q. How many people in the United States are illiterates? I. S. K.

A. According to the 1920 census there were 4,931,905 persons in the United States 10 years or more of age unable to write in any language.

Q. Has science decided whether or not there are any sex differences in regard to intelligence? M. M.

A. No such sampling of the adult female population has ever been made as was afforded by the draft and we are not in a position to compare the average adult man and woman in regard to intelligence. Intelligence tests given to boys and girls show that in tests calling for quick accurate work, girls have on the average slightly surpassed the boys of the same age. This may be due to the fact that girls mature at an earlier age than boys. According to Binet tests, boys and girls average almost the same year by year. The college women on the Alpha test score on the average a few points lower than college men, but this may be due to the fact that the Alpha test was framed for men and includes subjects that are outside women's interests. At present there is little evidence of any significant difference between the sexes on this point.

Q. How much money is given to education in gifts and bequests? O. P.

A. For the 47 years between 1871 and 1922 the amount was $823,141,122. The most given in any one of the 47 years was $78,330,790 donated in 1922.

Q. When was the National Education Association organized? D. E.

A. This voluntary organization of teachers had its beginning in 1857 in Philadelphia, Pa. It now has an active membership of over 150,000.

Q. What per cent of the revenue of the District of Columbia is used for education? J. C.

A. Approximately one-third of the total revenue of the District of Columbia is devoted to education. This figure approaches $12,000,000 a year.

Q. How many schools for colored children has Julius Rosenwald built? K. L. Y.

A. The Julius Rosenwald Fund has aided in building more than 2,000 rural schoolhouses for negroes in 14 southern States and by the end of the present fiscal year the number will be 2,500. A condition of aid from the fund is that the negroes shall raise an amount equal to or greater than that given by the fund, securing this from their own contributions of money or labor, from white friends and from public funds.

Q. What is the age of the youngest student in an American college? C. M.

A. The youngest student of which we know that has ever entered an American college is Moses Finkelstein of Syracuse, N. Y., who entered Syracuse University at the age of 11 years.

Q. How long are college vacations in England? W. R.

A. In an article contrasting English and American Universities, William A. Robson says, "Between five and six months of the year are vacation in most English universities and these long periods provide the undergraduate with what are in many cases the most valuable of all opportunities for the process of intellectual assimilation and development. He is expected to work during vacation."

Q. What is the significance of the mortarboard caps that are worn by students? G. G.

A. The giving of the cap to students in a university is said to have denoted that they had ac-

quired full liberty, and were no longer subject to the rod of their superiors, in imitation of the custom of the ancient Romans who gave a headcovering to their slaves in the ceremony of making them free.

Q. Is it true that school teachers in New England were ever required to dig graves? B. B.

A. According to an old record the duties of an English Schoolmaster of 1661 were as follows: "To act as court messenger, to serve summonses, to conduct certain ceremonial services of the church, to lead the Sunday choir, to ring the bell for public worship, to dig graves, to perform other occasional duties."

Q. For whom was Leland Stanford University named? E. O. J.

A. The Leland Stanford Junior University was founded by Leland Stanford and his wife, Jane Lathrop, as a memorial to their only child, Leland Stanford, Junior, who died in 1884.

Q. How many of the men who had been educated at West Point served in the Civil War? H. O. M.

A. Of the cadets living when the Civil War began—including the class of 1861—89 per cent served with either the Union or Confederate forces. Over 73 per cent were in the Union army.

Q. How many colleges are there for the deaf? H. A. E.

A. Gallaudet College in Washington, D. C., is said to be the only institution of higher education in the world which is devoted exclusively to the deaf.

Q. What city has the largest high school? R. A. G.

A. New York has one high school with 8,000 pupils and 285 teachers which is said to be the largest in the world.

Q. Explain the Six and Six Plan of School Organization? B. O. F.

A. The Six and Six Plan of School Organization is a plan whereby the education of a child shall be divided into six years of graded school work, two years of junior high, and four years of high school work, making six of graded work and six of high rather than eight grades and four years in high school.

Q. In what year was the first school opened in New York City? W. Y. W.

A. In New Amsterdam (now called New York) the first school was started in 1633.

Q. Where is the oldest Catholic College for Women in the United States? M. C. F.

A. St. Elizabeth's, two miles outside of Morristown, New Jersey, has this distinction. It was founded by the Sisters of Charity in 1899, celebrating its twenty-fifth anniversary on May 10th. It is affiliated with the American Association of University Women, is empowered to grant Academic degrees of Bachelor of Letters, Bachelor of Arts, Bachelor of Science, and Bachelor of Music, and grants a High School Teacher's certificate to its students in Education which is honored by the New Jersey and Pennsylvania State Boards of Education.

Q. What percentage of the boys between 20 and 24 are in college? L. R. N.

A. Out of 3,594,834 men between the ages of 20 and 24 there are approximately 356,000 in colleges. This is approximately ten per cent of the male population that are in colleges at that age.

Q. Who founded the French Academy? A. N.

A. The French Academy, which is the highest of the five Academies which constitute the French Institute, was founded by Cardinal Richelieu in 1635. It was reorgan-

ized in 1816. The other academies are the Academy of Inscriptions and Belles Lettres; Academy of Sciences; Academy of Fine Arts; and the Academy of Moral and Political Science.

Q. What does it cost the Government to put a boy through West Point? H. D.

A. The War Department says that the approximate cost to the United States Government in putting a cadet through the course at the United States Military Academy is $10,000 for the four years. This includes the overhead expenses such as repairs and improvements to the academy, etc. The approximate cost of maintaining and educating a cadet excluding the overhead expense is $6,253.84 for the four years.

Q. Why don't school teachers have to pay an income tax on their salaries? P. A. V.

A. The income of school teachers paid by the State, county and city is exempt from the Federal income tax because under the Constitution it is unlawful for the Federal Government to tax the revenue of the State or any political subdivision thereof. The salaries of city, State and county officials are paid from the revenue received.

Q. Has Yale University limited the size of her freshman class? G. H. A.

A. Yale University, having decided to receive no more entering students than can properly be accommodated, has announced that the freshman class has been limited to 850.

Q. What are peoples' universities? T. E.

A. The public high schools are sometimes referred to as Peoples' Universities.

Q. Is a man's military education complete when he finishes at West Point? R. C. B.

A. West Point is but the beginning of education in the Army. Each of the servvices has continuing schools of growing breadth and usefulness. The Army War College is in Washington, D. C., while the Naval War College is at Newport, R. I. There are many other schools where instruction in special branches of war science is given.

Q. Why was Radcliffe College given that name? E. T.

A. The name was given in honor of Lady Mowlson, whose maiden name was Anne Radcliffe. In 1643 she gave 100 pounds to Harvard, the first gift made to the college by a woman.

Q. When were free public schools established in Prussia, Canada, England and France? A. M. P.

A. Prussia had free public schools maintained by the State in 1713, Canada in 1867, England in 1870, France in 1881.

Q. Is the ability to swim required for college women? B. G.

A. The Bureau of Education says that swimming for women is required in 22 colleges and universities as part of the college work. Cornell University, Iowa State Agricultural College, Rockford College, Syracuse University, Cincinnati University, University of Wisconsin, Wells College, Western Reserve and Wooster College refuse to grant a degree to a student who fails to pass a fixed swimming requirement, which may be ability to swim 50 feet, strokes in good form, swimming for two years, or swimming 120 yards and diving. The most frequent requirement, however, is swimming 50 yards.

Q. Who was the first Yale student? V. G. E.

A. Yale was chartered on October 9, 1701. The first student was Jacob Heminway.

Q. Does a graduate of a medical school in the United States have to stand an examination in order to practice medicine in Cuba? Z. S.

A. The Cuban Legation says that the Cuban Government recognizes a number of the leading medical colleges in this country, and the graduates from these colleges are permitted to practice without any special examination.

Q. Is there to be a Jewish University established in Europe? H. J. H.

A. A plan was submitted to the League of Nations to establish a Jewish University in Danzig. The Intellectual Commissioner of the League has not yet approved the plan. There is a proposal before it to accept Spain's offer to turn one of her universities into an international university, and the Commission is preparing another plan which proposes the regulation of existing conditions in the national universities.

Q. What per cent of rural school teachers are normal school graduates? H. L. F.

A. Thirty-five per cent of the children in this country attend rural schools, and fewer than 2 per cent of the 300,000 teachers in these schools are normal graduates.

Q. Does it cost more to train a child in kindergarten than in the first grade? E. L. R.

A. The cost of instruction in kindergartens is lower for both 1920 and 1922 (years in which the survey was made) than that of any other kind of instruction in the public school.

Q. What is meant by the Socratic method of reasoning? E. V. K.

A. This term applies to the method in argumentation of asking questions by answering which the adversary unconsciously makes fatal admissions. It is so called because it was much resorted to by Socrates.

Q. How many school children are furnished transportation to school? M. O. E.

A. Some pupil transportation at public expense is being carried on in every State. In 24 states reporting to the Bureau of Education there were 470,379 pupils furnished transportation at public expense.

Q. How long would it take to complete all the courses in a university? H. L. W.

A. This would depend upon the university, but it was once computed that it would take 503 years to complete every course offered at Yale University.

Q. What was the first institution of higher learning west of the Alleghenies? H. S.

A. Washington College, at Washington College, Tennessee, was the first.

Q. Where was the first Indian school in Arizona? C. B.

A. It was at San Tan. This was a Government day shool opened for Pima Indian children on the reservation February 15, 1871.

Q. I have been told that children in Czechoslovakia attend school on Saturdays. Is this true? C. M.

A. The school year in Czechoslovakia comprises 230 days, according to the schedule recently fixed by the Ministry of Education. Sunday is the only day of the week on which the schools are closed.

Q. At what age do children usually graduate from high school? S. M.

A. The average age of high school graduates is 18 years.

Q. Where is the oldest university still in existence? L. C. L.

A. The famous University of Bologna, at Bologna, Italy, was founded in the 11th century. Its foundation by Theodosius the

Great in 425 A. D. is legendary. This is the oldest university in the world. The University of Paris is the next oldest. Harvard is the oldest university in the United States.

Q. How many students does Harvard allow in its freshman class? C. H.

A. Harvard University gave notice on March 4, 1924, that future freshman classes will not exceed 1,000.

Q. What was the Log College? W. N. G.

A. This was a famous wilderness school founded at Neshaminy, Pennsylvania, by Rev. William Jerrent. It was the first literary institution above the common schools in Pennsylvania. Of the Log Cabin College it has been said that it was "the germ from which proceeded the flourishing college of New Jersey, at Princeton."

Q. How many persons of school age in the United States can neither read nor write? S. T. T.

A. The number of such persons over 10 years of age is estimated to be 5,000,000.

Q. What was meant by the trivium? F. C. N.

A. In the curriculum of the early universities, the first three of the seven liberal arts, which embraced grammar, logic and rhetoric, were known as the trivium.

Q. When were junior high schools started? A. G. A.

A. The Bureau of Education says according to their best information a report of the Committee of Ten on secondary education in 1893 made recommendations foreshadowing to a certain extent the present day reorganization of the American high school system and the organization of what they chose to call the junior high school. The first junior high school seems to have been started in Berkeley, California, in 1909.

Q. How were schools first started? L. B.

A. The first schools were started in the early history of mankind. Schools were first held out of doors and the teaching was conducted orally, similar to the Hindu Braham schools. Among the Hebrews the laws were expounded by oral teaching from the porches of the temples.

Q. Where was the first school for the deaf started in the United States? D. M.

A. The first was a small school started in Hartford, Connecticut, in 1817. It was financed through the generosity of a few men, one of whom, Dr. Cogswell, had a deaf daughter. Thomas Hopkins Gallaudet with the collaboration of the Frenchman, Clerc, inaugurated the system of teaching.

Q. How much money is donated to higher education in a year? F. B. S.

A. The total amount of gifts and bequests given to colleges and universities, excluding grants by the United States, by the several States, and the municipalities reported for the year 1923-24 was $81,722,887.

Q. I would like to get a position as teacher in South America. How shall I go about it? W. B.

A. The Pan-American Union says that applications for positions in government schools should be addressed, in the language of the country, to the head of the educational department of the country. The public schools are in most cases under the control of the national government rather than state or local authorities.

Q. Is the letter A the first letter of every alphabet? H. F.

A. A is the first letter of all alphabets except the Old German, or Runic, in which it comes fourth and the Ethiopian, in which it is the thirteenth.

XXIII

ETIQUETTE

Q. When rising from a dining table should one push his chair back into place? S. McL.

A. It is regarded as being in better form to allow the chair to rest where it is when one rises from the table.

Q. How should a club sandwich be eaten? H. M. G.

A. A club sandwich is eaten with a fork after the toast and other ingredients have been broken. In doing this one uses a knife and fork.

Q. Does a woman precede or follow her escort down a receiving line? A. V. R.

A. A woman is received first.

Q. When is it proper to wear a tuxedo and when a full dress suit? A. L.

A. A tuxedo is worn upon informal occasions after six o'clock. It is appropriate to wear at the theater; at most dinners; at informal parties; when dining at home; and when dining in a restaurant. Full dress is worn at the opera; at an evening wedding; at a dinner to which the invitations are worded in the third person; at a ball, or formal evening entertainment; at certain state functions on the continent of Europe in broad daylight.

Q. Is it proper to send Christmas cards to persons with whom one is not personally acquainted? Should such cards be acknowledged? N. N.

A. It is considered good form to send Christmas greetings to public personages that one admires. One year President Coolidge received over 14,000 cards, most of which were from strangers. It is not necessary to reply to such mail.

Q. In passing people already seated in a theatre, should a man face the occupants of the seats or the stage? A. G. C.

A. He should face the stage. He is less likely to knock the knees of those sitting or to disarrange their clothes.

Q. Is it proper to wear military medals on evening clothes? T. C.

A. A paragraph from an article on military insignia by Colonel Wyllie states that in civilian life decorations should be confined to appropriate ceremonious occasions. On civilian evening clothes minatures may be worn. These are exact replicas of the full-sized medals and ribbons made on the scale of about one-half. This authority on the wearing of military insignia further states that military men in uniform wear medals only on full dress occasions.

Q. Please tell me the proper way to acknowledge a wedding announcement. M. M. S.

A. Announcement cards need no acknowledgement, although carefully courteous persons leave cards or call on the bride's parents within two weeks after receiving the formal notification of the marriage. Not infrequently the friends of the newly wedded pair answer an announcement card by a brief note of congratulation addressed to the bride or to the groom. This, of course, is usually

done only when the friend lives at a distance.

Q. What kind of collar should be worn with a tuxedo? J. H.

A. The Correct Dress Chart of The Haberdasher says that a wing collar may be worn. A suitable tie is a wide black bow.

Q. In seating guests at dinner, should the husbands and wives and engaged couples be separated? J. S.

A. It is customary to separate married couples but to allow an engaged man to take in his fiancee.

Q. In speaking of one's husband to a social equal should one say "John said," "Mr. Jones said", or "My husband said"? P. Y.

A. She should say "John said", or "My husband said'.' The latter expression is used when one is speaking to a person who is unfamiliar with the given name of the speaker's husband.

Q. When should an announcement of an engagement be made? C. M.

A. It should be made upon the day that the bride-elect chooses to wear her engagement ring for the first time publicly.

Q. What is the proper procedure of a best man in regard to the handling of the wedding ring? T. I. L.

A. The best man carries in his right-hand waistcoat pocket the wedding ring and in his left-hand pocket the fee for the clergyman. He joins the groom in the room set aside for their use and walks with him to the spot where the marriage is to take place. The best man stands one pace behind the bridegroom. Anticipating the moment that the ring is to come into requisition he advances and places it in his friend's hand and at the conclusion of the ceremony handing the groom his hat and gloves, the best man slips the envelope containing the fee into the clergyman's hand.

Q. Should the tissue paper that comes with engraved invitations be sent with the invitations to the guests? B. J. C.

A. Tissue paper should not be folded in with the invitations.

Q. Should a dinner napkin be entirely unfolded when used? D. H.

A. One fold should be left in the napkin.

Q. What is meant when the corner of a visiting card is turned down? R. S.

A. There is no universal interpretation of this. Many turn down the corner of a card, meaning that the visit was meant for all the ladies of the household, while others mean to convey that the card was left in person, taking the place of a bona fide visit.

Q. Was there ever a time when it was considered proper to eat with a knife? C. M. D.

A. The table knife became popular after the 17th century. During the period of transition from fingers to forks, knives were used for eating as well as for cutting.

Q. What should a person do who is invited to a bridge party and would like to go but does not play the game? P. L. K.

A. If you are invited to an Auction Bridge party and are not sufficiently well versed in the game so that you will not be an embarrassment to yourself or to other players you should decline the invitation. It is not in good form to plead ignorance of any game of that character and at the same time attempt to play it.

Q. Should the mail of a Congressman be addressed Hon. or The Hon.? L. H. F.

A. In addressing a Representative in the United States Congress, the form is The Hon. In addressing a Senator, the envelope should read Senator etc.

Q. When a couple leaves the street car, should the woman go first? J. P.

A. The man should precede the woman to assist her down the car steps.

Q. Is it proper to serve butter at a formal dinner? T. R. C.

A. Butter is not served. Bread and butter plates are dispensed with. Finger rolls are passed.

Q. If a lady is seated when she receives an introduction to a gentleman should she rise? L. E. S.

A. When a man is introduced to a woman she remains seated if she prefers to do so. Some women regard it as more cordial to rise under these circumstances. If the man who is introduced is elderly, a young woman always rises when he is presented.

Q. How should the president of a class be addressed when the person is a young lady? B. H.

A. The president of a young ladies class should be addressed, "Madam President".

Q. Should a wife's card appear on the letter box or door of the apartment? E. T.

A. It is customary to use the husband's card in the space provided for the name

Q. What size should a woman's visiting card be? N. C. W.

A. A woman's visiting card is two and three-fourths to three and a half inches wide, and two to three and three-fourths inches high. There is, however, no fixed rule.

Q. When addressing a letter to a widow, should her late husband's initials be used? R. N.

A. Following her husband's death, a woman is known socially by the name which she used during her husband's lifetime. Mrs. John Jones continues to be known as Mrs. John Jones.

Q. Should a young lady be congratulated upon her approaching marriage? O. G.

A. It is not considered to be in good form to congratulate a prospective bride. She is to receive one's good wishes. The prospective bridegroom is congratulated. The bride-elect's mother receives the kind wishes of her friends. The mother of the groom-elect receives kind wishes and congratulations. In speaking with a young woman who has recently been married, one offers her his wishes for great happiness. Her husband is congratulated.

Q. How many knives and forks may be placed at a place? J. W. C.

A. Besides the butter spreader and oyster fork, two knives and three forks may be laid at each cover. If additional silver is required, it is laid when needed.

Q. If a toast is proposed does the person who is toasted drink from his glass? T. P. D.

A. The person who is toasted does not drink the toast.

Q. When a person helps himself from a service dish which is accompanied by a fork and spoon, which implement is taken in the right hand? C. E. B.

A. The fork is held in the right hand and the spoon in the left.

Q. How should a drinking glass and a coffee cup be held? K. C. L.

A. A drinking glass is held a little below the center between the thumb and first two fingers. The handle of a coffee cup is grasped by the thumb and first two fingers, the third and fourth being bent toward the palm.

Q. When walking with two ladies, should the man walk between them or on the outside? M. C.

A. He should walk on the outside.

Q. How should a letter be addressed to the Governor of Ohio? T. C.

A. On the envelope should be inscribed His Excellency the Governor, Columbus, Ohio. On the inside the salutation should be Your Excellency.

Q. Should a young lady ask her escort to come in when he brings her home from the theatre or from a party? O. W. B.

A. She should not ask him in. A few words of thanks for a pleasant evening should be said as her escort leaves her at the door.

Q. When presents are given at a birthday party, should they be opened or kept until the party is over? M. H.

A. It is customary to open a gift immediately upon its receipt. The fact that presents are offered at a birthday party does not affect that custom.

Q. When a man is engaged to a girl, does each call the other "fiance"? K. C. L.

A. There are two forms of the word. Fiance is the masculine and fiancee the feminine form. They are both pronounced fee ahn say.

Q. After a death in the family, should the calls of sympathy be returned? R. C. S.

A. Such calls are not returned since the family is in mourning and is not making social visits.

Q. Is it correct to say United States of America or should the title be The United States of America? O. H.

A. The United States of America is correct.

Q. In case of a broken engagement, what becomes of the wedding presents? M. H.

A. They are usually returned to their donors.

Q. Is it proper to sign a letter Your humble servant? D. C. B.

A. The superscription, Your humble servant, is no longer good form. It is an expression that was used many years ago and should now be avoided.

Q. Who introduced into America the use of finger-bowls? R. V. K.

A. Thomas Jefferson introduced the use of finger-bowls and a number of other customs that he had observed in Europe.

Q. When did people stop bowing when meeting on the street? W. S.

A. Many people still incline the head slightly when speaking to acquaintances on the street. The deep bow or curtsey of women and the waist deep bend of men had been modified to a great extent by 1860.

Q. Should the engagement ring or the wedding ring go on the finger first? C. E. R.

A. The engagement ring is worn over the wedding ring.

Q. Is it correct to say man and wife when husband and wife is meant? R. A. M.

A. The use of man in the sense of husband has the sanction of time, dating back to about 1300.

Q. What is a salaam? L. F. F.

A. The salaam is the common form of salutation among Mohammedans to those of their own faith. The full salutation translated is "peace be unto you" and the reply "and unto you peace."

Q. In addressing letters to members of the Supreme Court what form of salutation should be used? F. W.

A. In the case of Chief Justice Taft, the form should be "My dear Mr. Chief Justice" and in the case of the other judges, "My dear Mr. Associate Justice."

Q. When and how should an engagement ring be presented to a

woman? Should the man ask the woman before offering the ring? E. G.

A. The gift of an engagement ring is largely controlled by the convenience of the prospective bridegroom. There is no arbitrary rule concerning the method by which he gives the ring to his fiancee. A man should propose marriage before offering a ring. In fact, many authorities regard it in bad taste to propose and offer the ring at the same time since this suggests to the woman that the man was probably too confident.

Q. To settle an argument will you tell me the correct way in which to eat peas. One person says they are always eaten with a spoon, another that a fork should be used, while a third says they may be eaten with either a spoon or fork. J. E. C.

A. It is customary to eat vegetables with a fork. This applies in the case of peas.

Q. When should the joint card of the husband and wife be used? W. P. B.

A. Such cards may be used by a bride when calling after her return from the honeymoon, when sending a gift in which her husband shares, and in sending acceptances or regrets to invitations in which both participate.

Q. What kind of sandwiches should be eaten with the fingers? C. E. A.

A. Most sandwiches are held in the fingers. In the case of a club sandwich or a large chicken sandwich a fork is used and a knife is also employed if necessary.

Q. My daughter is going on a visit to a distant city in which lives an old friend of mine who is an unmarried man. In what manner should I request this friend to call on my daughter? J. R. G.

A. The most usual way of inviting a friend to call upon a visiting daughter or relative in another city is by a personal letter recalling old friendship and saying that it would give you pleasure to have your old friend make the acquaintance of your young daughter.

Q. Which is the correct designation when applied to the office of a diplomatic representative of this country American Embassy or Embassy of the United States? M. A.

A. In June, 1904, an order was issued by the then Secretary of State John Hay that on all new record books, seals, etc., used by representatives of the United States in foreign countries, there should appear the words American Embassy, American Legation, etc., in place of Embassy of the United States, Legation of the United States, etc., previously employed.

Q. Was it ever correct to say Mrs. Senator and Mrs. Secretary, as for example, Mrs. Senator Borah? H. C. L.

A. Edna Colman in "Seventy-five Years of White House Gossip" quotes from the account of the Lincoln Inaugural Ball, published in the New York Times. The article uses the phrase "Mrs. Secretary Welles," "Mrs. Postmaster General Dennison," "Mrs. Senator Harris."

Q. Should a man precede a woman when entering an automomile, or should he climb over her feet? A. D. B.

A. Authorities on etiquette agree that when a man and woman are riding together in a carriage or automobile the woman should be seated on the right. If the vehicle is not so placed that the woman in stepping in can easily move over to the right side, good form permits her to take her seat and allow the man to step across to his seat. Some authorities regard it as extreme for a man to walk to the left side of the car to enter. In case there is no doorman in at-

tendance, the man can close the door as he steps into the car.

Q. Is there a right and a wrong way to offer a tip to an hotel chambermaid? H. C. R.

A. A recent article on hotel etiquette says that the most tactful way is to offer the money in an envelope.

Q. Should a woman be addressed as Mrs. Dr. Blank? S. E. W.

A. The wife of a physician does not share his title. She is addressed as Mrs. Blank. If she is a physician herself she is known professionally as Dr. Blank, and socially as Mrs. Blank.

Q. On entering a cafe does a woman precede a man? W. F.

A. If there is a waiter to assign the table the woman walks ahead of her escort. If not the man goes first and chooses the table.

Q. Why is a man supposed to remove his hat in the presence of a lady? R. B.

A. The origin of this custom has not been established. Some authorities attribute it to a medieval custom which required that a knight lift his visor in the presence of a lady.

Q. When calling for a young lady is it proper to blow the automobile horn to announce one's arrival? J. A.

A. The automobile horn should never be used to signal that a car is waiting.

Q. Upon which finger does a man wear a wedding ring, when the double ring ceremony is used? D. D. D.

A. A man wears a wedding ring, as a woman does, on the finger next to the little finger of the left hand.

Q. In which hand should the fork be held? E. T.

A. An American who is right-handed uses the fork with his right. If, however, he is left-handed he finds it less awkward to hold it with the left hand. Americans are conspicuous in Europe because of their observance of the custom of changing a fork from the right hand to the left.

Q. Should hard cheese and pickles be eaten with the fingers or a fork? B. S.

A. Hard cheese is eaten with the fingers. Small whole pickles may be eaten with the fingers. Mixed pickles are usually eaten with a fork.

Q. May one refer to her husband as Mr. Smith? C. K. W.

A. This form is correct in speaking to a servant, but should not be used in conversing with an equal.

Q. Is it proper to drink consomme from a cup or to use a spoon? M. C.

A. It is proper to use the spoon for the first few spoonfuls of consomme. One may continue to use the spoon or may lift the cup and sip its contents.

Q. Is it improper to eat the lettuce upon which a salad is served? K. C. E.

A. Inclination may guide a person. The lettuce may be eaten if one chooses.

Q. When making calls where should cards be left? C. E.

A. If a servant opens the door, he will doubtless have in his hand a card tray upon which the caller places his cards. In case a guest is received at the door by a member of the family, the caller places the cards on a table in the hall or drawing room.

Q. When does a man lift his hat to other men? P. R. J.

A. In recognizing clergymen or distinguished or elderly men of his acquaintance.

Q. Will you please tell me whether or not it is good form to have "Miss" before one's name on calling cards? A. M.

A. It is not only correct to use the title, Miss, on a visiting card by an unmarried woman, but the omission of the title is a social error.

Q. If I receive an invitation to a wedding am I obliged to send a present to the bride? W. S. C.

A. No. Your sending a gift is a matter of your own desire and ability to gratify it.

Q. How should one inscribe a signature on an hotel register? J. Z.

A. Use the form of name which appears on the visiting card, adding also the name of town or city which is one's permanent place of abode.

Q. Should a fork be held with prongs up or down when eating vegetables? L. S. K.

A. When eating meat one should hold the fork with the prongs down. Vegetables should be conveyed to the mouth on the fork prongs of which are up. At the end of a meal the fork is placed with the knife to the right of the middle of the plate with the prongs up.

Q. In correspondence does one ever sign a name "Mr. James Benton", Mrs. Arthur Crawford", "Miss Amy Phillips"? S. R.

A. This is never done. One must use only the given names and surname. In the case of a woman who needs to indicate whether she is married, she may add in parentheses, "Mrs. Arthur Crawford."

Q. Does a woman, calling upon a married woman, leave a visiting card for the hostess' husband? G. W.

A. She never leaves cards for the masculine members of a household upon which she calls.

Q. Is it proper to thank a maid when she passes food to you at a dinner? A. R.

A. It is not necessary to thank a maid for such service.

Q. At what hour of the day is it proper to serve a buffet meal? J. R.

A. A buffet breakfast may be served at noon, a luncheon at one or two o'clock, a supper at any time in the evening, or this kind of service may be used for an afternoon or evening reception.

Q. In writing to the head of a college, should his academic degrees be designated on the envelope? V. C. J.

A. It is not usual nor necessary to affix them to his name on an envelope.

Q. In serving people at dinner should the dishes be passed to the left or right? G. G. G.

A. Dishes are always removed from the right and served from the left.

Q. When monograms are used should the initial of the last name appear in the center, or in natural order? A. H.

A. This is a matter of choice. Often the letters lend themselves to one or the other with better effect and balance. When the initial of the surname is in the center, it is usually larger than the other ones.

Q. Is a chauffeur employed by a private family supposed to speak to his own friends when driving for his employer? L. M. L.

A. A chauffeur employed by a private family does not greet friends while he is driving for his employer.

Q. How long should a formal call be? M. L. B.

A. A caller should remain approximately 20 minutes. The call should be returned within two weeks.

XXIV

FAMOUS MEN

Q. Kindly name a few deaf persons whose lives have been notably successful. E. L. T.

A. Thomas Edison, Ludwig Van Beethoven, Harriet Martineau, E. S. Martin, Joshua Reynolds, E. E. Calkins.

Q. Are most of the famous Americans self-made? D. R.

A. Publishers of Who's Who in America say that at least 50 per cent of those whose names appear in Who's Who have had at least part of a college education, and 79 per cent have had a high school education.

Q. Was P. T. Barnum, the circus man, ever a member of Congress? C. M.

A. Barnum was defeated as a candidate for Congress in 1866, but was four times a member of the Connecticut legislature, which may have given rise to the impression that he served in the national body.

Q. What English Prime Minister predicted his own success? L. L.

A. In his maiden speech in the House of Commons Disraeli may have been said to do so. The speech was so much in the grand style and was accompanied with such extravagant gestures that it was received with mirth. Disraeli stopped abruptly, saying "I will sit down now, but the time will come when you will hear from me."

Q. Name some men of prominence who have been preachers' sons. A. N.

A. There are Cecil Rhodes and Harriman among financiers, Cleveland, Arthur, and Wilson among Presidents, Emerson, Coleridge, Addison, and Tennyson among writers, Hallam, Hobbes, Froude, Sloane, and Parkman among historians, Reynolds, Jenner, Linnaeus, and Sir Christopher Wren.

Q. What were Cecil Rhodes' dying words? S. L. D.

A. "So little done, so much to do! Good-bye. God bless you!"

Q. Was Henry Clay as great an orator as Webster? H. U. P.

A. While Carl Schurz ranked Clay above Webster as an orator other authorities of the time incline to the view that Clay held his auditors by the power of his personality rather than by the substance of what he said. Webster impressed his hearers both by his presence and by a remarkable combination of clear thought and magnificence of diction.

Q. Why did Lloyd George come into prominence? H. H.

A. Lloyd George's rise to prominence dates from the Boer War. He took up a position of strong antagonism to the government's war policy and became a leader of the "pro-Boer" section of the Liberal Party. He was at this time the most unpopular man in Great Britain, but during the period of reaction following the war, his reputation rose rapidly.

Q. Is it true that the body of Emperor Frederick the Great was

not embalmed? N. D.

A. By the expressed wish of the Emperor, his body was not thus prepared for burial. Two regimental surgeons bathed the body and prepared it for interment.

Q. Did Lord Byron actually swim the Hellespont? C. E. S.

A. Byron swam the channel of the Dardanelles, or ancient Hellespont, probably at its narrowest point. There is a rapid current in the channel and Byron swam it in one hour and ten minutes, the distance being about one mile.

Q. What was Ralph W. Emerson's definition of a great story? C. S.

A. The philosopher defined such a story as one which would evoke both tears and laughter.

Q. Who was the first millionaire? C. A.

A. One of the earliest millionaires mentioned in early writings was Croesus. John Jacob Astor, 1763-1848, was probably the richest man in the United States in his day.

Q. Was Hugo Stinnes a Jew? J. W. R.

A. Hugo Stinnes, the German financier, was not a Jew. His father was a pure German; his mother, French, of Huguenot descent.

Q. Was Tom Thumb an American? F. S. M.

A. Tom Thumb was the professional name of Charles S. Stratton. He was born at Bridgeport, Conn., January 4, 1838, and died at Middleboro, Mass., July 15, 1883. His parents were normal. The child, however, ceased to grow in height at seven months. He was 28 inches tall.

Q. Who was it who carried a live ox on his shoulders? L. O. O.

A. This story is told of Milo of Croton, a famous athlete who lived 500 years B. C. He is said to have carried a live ox through the stadium of Olympia and afterward to have eaten the whole of it in one day! It is also told of him that he held up the pillars of a house in which Pythagoras and his scholars were assembled, thus enabling them to escape when the house was falling.

Q. Who was Billy the Kid? A. Y.

A. Billy the Kid was the name used by William H. Bonney 1859-1881. He was killed by a bullet fired by Sheriff Pat Garrett, which pierced his breast. He was 21 years of age at the time of his death and had killed 21 men, not counting Indians, during his six years of outlawry.

Q. Why are Siamese twins so-called? C. A. B.

A. The original twins were two brothers—Chang and Eng—who lived to be 63 years old and died within two and half hours of each other in 1874. They were born of a Chinese father and a Siamese mother in Siam; hence the term Siamese Twins. Since that time any two children similarly joined have been referred to popularly as Siamese Twins.

Q. How did the ampere get its name? K. K. L.

A. It was named for Andre Marie Ampere, a noted French physicist, who made many contributions to science in the way of invention and deduction.

Q. Who wrote down the blind Milton's translations of the documents prepared for Cromwell by Milton? H. J. E.

A. Milton's undersecretary, Andrew Marvel, did the great work.

Q. Please state the point from which Ezra Meeker started, in 1854, on his famous ox team journey, which landed him in Oregon in five months. A. S.

A. Ezra Meeker started four

miles out of Indianapolis on the National Road. He has written a book on his journey entitled The Ox Team or Old Oregon Train.

Q. What was the real name of Voltaire? C. L. W.

A. Jean Francois Marie Arouet assumed the name of Voltaire when about twenty-four years of age. He had already been recognized as a rising author and dramatic poet, and the reason for the change in name is not satisfactorily explained.

Q. Where is the Marquis de Lafayette buried? M. B.

A. He is buried in the Picpus Cemetery, Paris, France.

Q. Is it true that most great men have blue or gray eyes? L. J. McG.

A. Although in the eyes of famous people all colors are represented, the majority appear to have had eyes either of blue, gray, or blue-gray. Dante's eyes were brown, as were also those of Julius Caesar, Paganini, Goethe, Leigh Hunt, Voltaire, Gladstone, Pope Leo XIII, Beethoven, Raphael and Sir Joshua Reynolds. Persons with gray eyes include: Byron, Coleridge, Chatterton, Napoleon, Bismarck, and Nansen, the explorer, Audubon, the Duke of Wellington, Richard Coeur de Leon, Wolsey, Dickens, Ruskin, Moltke, the Duke of Marlborough, Swift and Edison all had blue eyes. Many persons have eyes that are at times gray and at times blue, generally described as blue-gray. Famous persons having this type of eyes include: Frederick the Great, J. Russell Lowell, Rossetti and George Washington. Most portraits of Shakespeare indicate that he had blue eyes.

Q. Please tell the burial place of Francis Scott Key, the writer of The Star-Spangled Banner. M. E. T.

A. Francis Scott Key is buried in the village cemetery at Frederick, Maryland.

Q. Who was Chauncey Jerome? G. J.

A . Jerome was the noted American clockmaker who originated the one-day brass clock movement, which enormously increased the American clock business and opened a market for American clocks in Europe. He was born in Canaan, Connecticut, in 1793.

Q. Where is Baron DeKalb buried? P. S. B.

A. Baron DeKalb is buried under a monument in the Presbyterian Churchyard in Camden, S. C.

Q. Who was the tallest man who ever lived? J. J. G.

A. Among what are regarded as fairly authentic cases of abnormal stature it is reported that in the time of Augustus there were to be seen in the Horti Sallustiani at Rome the body of a giant, Posio, and a giantess, Secundilla, each 10 feet 2 inches in height. J. Middleton, or the Child of Hale, born in 1578, attained the height of 9 feet 3 inches.

Q. When did Charles E. Hughes first figure in national politics? O. B.

A. Mr. Hughes made the speech at the formal opening of the Republican national campaign in 1908, and his prominence in national affairs may be said to date from that time.

Q. Who is considered America's first financier? A. C. B.

A. Robert Morris was America's first financier. In May, 1781, Morris presented to Congress the plan for the Bank of North America, the first bank for general purposes in the United States. The financial operations incident to the achievement of independence during the Revolutionary War were chiefly carried on by Robert Morris.

Q. When was Andrew Carnegie born? H. O. W.

A. He was born November 25, 1835.

Q. Please tell something about Black Beard, the Pirate . J. R. C.

A. Black Beard was the nickname given to Edward Teach. He was born in Bristol. The date is not recorded. He probably started out as a common sailor and took to piracy in 1716. He was called Black Beard from the length and thickness of his beard. He was killed by an expedition sent out under Lieutenant Robert Maynard.

Q. How did John D. Rockefeller make his first money? D. I.

A. John D. Rockefeller says that the first money he ever earned was made by raising turkeys when he was seven years old. His mother gave him curds from the milk to feed them. He kept an account in "Ledger A," which is still in existence.

Q. Are any of Tolstoi's family still living? D. C. A.

A. A Russian paper at Prague stated that his children are still living in Russia, for the most part in great poverty. The Tolstoi estate of Jassmaya Poljana has been nationalized and is to be made a center of Soviet culture under the Department of Education and the central museum.

Q. What was the native name given to Stanley, the explorer? D. H.

A. An African chieftainess gave him the title "breaker of stone"—Bula Matari.

Q. Is it true that men of short stature have never figured prominently in our Government?

A. Lombroso in his Man of Genius says that greatness and stature are rarely found together. In consulting biographies of a number of great men in American history, however, it has been found that this statement does not always apply. There have been on the whole more prominent men above middle height than below. Among the short men may be numbered John Quincy Adams, Admiral Farragut, John Paul Jones, General Phil Sheridan, Stephen A. Douglas, William H. Seward, and Martin Van Buren. On the other hand we find that Charles Sumner was 6 feet 4 inches; Thomas Jefferson 6 feet 2½ inches; Godfrey Leland, 6 feet 2½ inches; Andrew Jackson, 6 feet 1 inch; Samuel Adams, Samuel P. Chase, and Jonathan Edwards described as over 6 feet; James Monroe, 6 feet or more; Bayard Taylor, 6 feet at the age of 17; George Washington, 6 feet, 2 inches; Henry Ward Beecher, Rufus Choate, Benjamin Franklin were slightly under 6 feet. Daniel Webster and Patrick Henry were about 5 feet 10 inches.

Q. Who is Golden Rule Nash? I. S. A.

A. Arthur Nash, president of the A. Nash Tailoring Company of Cincinnati, who has undertaken to practice the principle of brotherly love in his business, has been given this name. He recently distributed among his 5,000 employees a $600,000 dividend and stock which ultimately will give them control of the enterprise.

Q. What was the name given General Pershing by the Sioux Indians? D. Y. L.

A. The Sioux Indians have conferred the name of Brave Eagle upon General Pershing. The name was decided upon at a council of the Indians at Rosebud Reservation. The giving of an Indian name is considered by the Sioux as the highest honor that can be conferred. The name Brave Eagle in the Sioux language is Wanbli-Ohitika.

Q. Is Nicola Tesla an American? H. W.

A. He is a naturalized citizen. He was born in Austria-Hungary in 1857, coming to the United States in 1884. He discovered the principle of the rotary magnetic field, applying it in practical form to the induction motor. He has invented many electrical appliances, such as dynamos, transformers, induction coils, oscillators, and incandescent lamps. His later problems deal generally with wireless.

Q. When did Robert Ingersoll make his last speech? J. N.

A. The last public appearance of Robert G. Ingersoll was on June 21, 1899, at Camden, N. J., in an argument before Vice Chancellor of that State in the case of Russell vs. Russell. His last address was that on What is Religion, delivered June 2, 1899, before the American Free Religious Association in the Hollis Street Theater, Boston. Ingersoll died on the 21st of July, 1899.

Q. When did Weston, the walker, first come into public notice? W. P.

A. Edward Payson Weston began his professional career as a pedestrian in 1867, but he first attracted attention in 1861 by walking 443 miles in 208 hours to attend the inauguration of Abraham Lincoln.

Q. What musical instrument does Charles Dawes play? W. M. I.

A. Vice President Dawes is a violinist. He also is a composer of promise. His Melody in A Maor has been recorded on the disc by Fritz Kreisler.

Q. Who was Uncle Bennie to whom I see reference concerning the education of Kentucky mountaineers? A. D. H.

A. The reference is to Benedict W. Law, who recently died at Caney Creek, Kentucky. He was the friend of mountaineer children for whose education he contributed liberally.

Q. Was there ever a real Dick Turpin? E. G.

A. Richard Turpin, commonly called Dick Turpin, was a real English highwayman who lived from 1706-39. However, his reputation as a hero, a man of courage and generosity, and the account of his marvelous ride from London to York, have no foundation in fact.

Q. Who were Admiral Dot and Major Atom? M. A. D.

A. Admiral Dot was a dwarf smaller than Tom Thumb, who was exhibited by P. T. Barnum. Major Atom was the former's nephew.

Q. Did Jack London renounce Socialism during his life-time? J. J. S.

A. Mrs. Jack London says that Jack London did not renounce Socialism. He did, however, sever his connection with the Socialist Party a few months before his death in November, 1916.

Q. Has Chauncey Depew ever been a candidate for nomination to the presidency? E. S.

A. In 1888 he was a prominent candidate at the National Republican Convention but withdrew in favor of Benjamin Harrison.

Q. Is Montgomery Ward one man's name or two? L. W. F.

A. The name of the founder of the Montgomery Ward Company, which was incorporated in 1872 was A. Montgomery Ward. He was the son of Sylvester and Julia Ward, and a grandson of Israel Montgomery Ward of Revolutionary fame.

Q. What was Edward Bok's first job? R. R. R.

A. Bok cleaned the show window of a bakery for 50 cents a week. When he was 12, he was an office boy in the Western Union Telegraph Company. At 19 he was

a stenographer. Bok became editor of the Ladies' Home Journal when he was 26.

Q. For whom was Bolling Field named? R. E.

A. This aviation field was named for Colonel Raynal C. Bolling, who was the first American officer of high rank killed during the World War. He died on the field of battle, March 26, 1918, as a result of a hand-to-hand pistol duel with overwhelming numbers of the enemy.

Q. How much money did the first John Jacob Astor leave? M. J.

A. He left a fortune of $30,000,000 invested mostly in New York real estate.

Q. Was Buffalo Bill ever called Pahaska? B. B. McC.

A. William F. Cody, whom we know as Buffalo Bill, was called Pahaska by the Indians, meaning long hair.

Q. Was Lafcadio Hearn born in America? C. C.

A. This writer of Japan was born in the Ionian Islands, the son of a Greek woman and of an Irish officer, Surgeon Major Charles Hearn; educated in England and France; came to the United States at the age of 19; engaged in journalism, first in Cincinnati, then in New Orleans, and New York; went to Japan as a correspondent in 1891; soon gave up his connection with the newspapers; taught English in the universities of Tokyo and became a citizen of Japan. He married a Japanese woman and devoted his extraordinary gifts of appreciation and criticism to interpreting between the civilization of the East and the West.

Q. By what name was L'Aiglon known to members of the Hapsburg family? S. S. W.

A. His relatives called him Franz in the days when he lived at Schonbrunn.

Q. Was it ever proposed to make Patrick Henry dictator of Virginia?

A. The scheme of dictatorship in Virginia was broached and without his knowledge or consent Patrick Henry was spoken of for the post. In the midst of the agitation, Archibald Cary met Henry's half-brother and delivered his famous threat: "Sir, I am told that your brother wishes to be dictator. Tell him from me that the day of his appointment shall be the day of his death, for he shall find my dagger in his heart before the sunset of that day!" The project was speedily abandoned.

Q. Was Harry Lauder ever a miner? F. J. W.

A. As a lad Harry Lauder was employed in a flax-spinning mill and later worked in the coal mines, but he had a natural talent as an entertainer that led him to choose the stage as a profession.

Q. Who was the greatest linguist the world ever produced? E. F. H.

A. Cardinal Giuseppe Caspar Mezzofanti, who was born at Bologna, Italy, in 1775, and died at Rome in 1849. He could speak one hundred and fourteen languages and dialects. Among the most famous linguists of ancient times were Mithridates, King of Pontus, who is said to have been thoroughly conversant with the languages of the 25 nations over which he ruled, and Cleopatra, Queen of Egypt, of whom Plutarch says, "She spoke most languages."

Q. Did Disraeli become a Christian? R. C.

A. Benjamin Disraeli was baptized at St. Andrew's Church, Holburn, London, in 1817, and thereby admitted into the Church of England. This occurred after the death of his father in 1816. Both of his parents were Jews.

Q. How did Alfred Nobel make the money which he left for the Nobel Prizes? A. T. S.

A. He was a chemist of note. With his father, he established a factory in which nitroglycerin was manufactured on a commercial scale for the first time in history. He also discovered and manufactured dynamite. He, with his brothers, operated petroleum wells in Russia which made them active competitors of the Standard Oil Company. An inventor of great genius, he took out 129 patents in England alone. At his death in 1896, he left more than $9,000,000, the greater part of which he directed should be used for the Nobel Prizes.

Q. What became of the man who discovered gold in California? O. D.

A. James W. Marshall died in poverty. Gertrude Atherton says, "He died old and alone in a mountain cabin."

Q. I saw an article in a newspaper several days ago which told who first called Mr. Bryan the Great Commoner. I can't recall the name and should like to know. V. A. M.

A. The Associated Press said that Willis J. Abbott, who is now editor of the Christian Science Monitor, was responsible for it. He was one of many newspaper men in Mr. Bryan's hotel room after the Cross of Gold speech had given him the presidential nomination in 1896. A railroad official tendered Mr. Bryan the use of the railway president's car for his return to Nebraska. Mr. Abbott, the great speech still in his mind, exclaimed, "But, Mr. Bryan, you certainly can not do that, you are a commoner. You are the Great Commoner."

Q. How old was Kit Carson when he died? N. A. B.

A. Carson died at the age of 59 years, having been born in Kentucky, December 24, 1809, and dying in Colorado, May 23, 1868.

Q. What was the name of the brother of Commodore Perry, who fought in the battle of Lake Erie? W. S.

A. The brother of Commodore Perry who accompanied him during the battle of Lake Erie was named Alexander.

Q. Who was the first white man to enter the Everglades? N. D. B.

A. Probably Escalente de Fontenada, a Spaniard, who was shipwrecked in the Straits of Florida, and taken prisoner by Carlos, the powerful cacique of the Everglades.

Q. Was Fra Diavolo a brigand or a monk? E. T.

A. Fra Diavolo was a monk, but was expelled on account of misconduct. He then became leader of a troop of Neapolitan highwaymen.

Q. Why was it that only Shelley's heart was buried? B. F.

A. The ashes and unconsumed heart of Shelley (whose body was burned in accordance with Italian law) were buried in the Protestant cemetery in Rome.

Q. Was Robert Lincoln ever our representative to England? L. E. R.

A. Robert Todd Lincoln, son of Abraham Lincoln, served as minister to the Court of St. James from 1889 to 1893.

Q. Please name some great men who were infidels. W. D. N.

A. Agnostics: Kant, Montaigne, Pascal, Agrippe, Democrates, Spencer, Tolstoi, Shakespeare, Socrates, Aristotle; atheists: Huxley, Epicurus, Protagoras, Nietzsche, Lucretius, Hegel, Shaw, Haeckel, Bentham; deists: Voltaire, Descartes and Erasmus.

Q. Who was the father of American mineralogy? M. F. W.

A. Parker Cleaveland, born at Rowley, Massachusetts, in 1780, who died at Brunswick, Maine, 78 years later, was given that title. He was a professor in Bowdoin College for 53 years, acquired a world-wide reputation, and was elected a member of 16 different scientific and literary societies in Europe.

Q. Was Robert E. Lee's father killed in a fight? T. N. R.

A. In Page's Biography of Lee, he mentions the fact that the father of General Lee was mortally injured in an election riot in Baltimore.

Q. Who is called the father of the automobile? G. H. H.

A. Gottlieb Daimler of Stuttgart, Germany, has been given this tile for the construction of the first gasoline engine automobile.

Q. Why was the late Samuel Gompers given military escort for his funeral? J. T. B.

A. Military honors were given to Samuel Gompers in recognition of his services during the World War.

Q. Was Peer Gynt a real person? T. E. N.

A. He was a real character of the Jutunheimen Mountains — a trapper famed for his wild and reckless exploits.

Q. How many cases of international law were decided by John Marshall? K. C. M.

A. John B. Moore in his Life of Marshall, states "during his period of service, 195 cases of international law were decided. Marshall delivered the opinion on 80 of these." Mr. Moore also states that of 62 opinions on constitutional law handed down during Marshall's period of service, 1801-1835, Marshall delivered 36 written opinions.

Q. Who was the first major general appointed by the Continental Congress? B. T. N.

A. Artemas Ward.

Q. What public offices did the late Charles Warren Fairbanks hold aside from Vice-President? E. P. O.

A. United States Senator from Indiana and Vice-President were the only elective public offices held by Fairbanks.

Q. Did Sir Francis Drake leave any lineal descendants? W. W.

A. Reliable genealogists say that he married twice, but by neither wife did he have children.

Q. What was John Brown's epitaph? N. G.

A. The one pronounced by the poet, Eugene F. Ware, was, "John Brown of Kansas; he dared begin; he lost, but losing won."

Q. Was the famous Chicago publisher, Joseph Medill, a lawyer? B. G.

A. Joseph Medill began his professional career by practicing law, abandoning that profession later for journalism.

Q. What does Thomas A. Edison eat? G. C. M.

A. Francis Arthur Jones, in his biography of Edison, says that for many years Mrs. Edison has taken full charge of her husband's diet. Through experiment she knows exactly what is best for him and as he was never much of an eater he is well satisfied to take what is placed before him. His present diet consists of spinach, tomatoes, carrots, sardines, and milk.

Q. Is Mussolini in any way related to Napoleon? R. M. R.

A. Benito Mussolini is of old Emilian stock, and in no way connected with the Corsican ancestry of Napoleon Bonaparte. Alessandro Mussolini, father of the Italian Premier, was originally a blacksmith of a hamlet in Varano di Costi, in the country of Pedrappio in the Romaqua Region of Italy.

XXV

FAMOUS WOMEN

Q. What women were voted the most famous in the United States? M. W. A.

A. The names of the twelve women deemed the most distinguished by the voters in the contest conducted by the League of Women Voters are: Jane Addams —Philanthropist; Cecilia Beaux—Painter; Anna Jump Cannon — Astronomy; Carrie Chapman Catt —Politics; Anna Botsford Comstock — Natural History; Minnie Maddern Fiske — Stage; Louise Homer — Music; Julia Lathrop — Child Welfare; Florence Rena Sabin — Anatomy; M. Carey Thomas—Education; Martha Van Renssalaer — Home Economics; Edith Wharton—Literature.

Q. Has Madame Curie visited the United States lately? G. L. M.

A. Madame Curie visited the United States in the spring of 1921 and was presented with an ounce of radium by the late President Harding for the women of America.

Q. What relation was Harriet Beecher Stowe to Henry Ward Beecher? F. T.

A. She was his sister.

Q. What caused Anne Rutledge's death? P. J. L.

A. Brain fever caused the death of Abraham Lincoln's first fiancee.

Q. What was the maiden name of Priscilla Alden? C. D. L.

A. The family name of Priscilla Alden was Mullens.

Q. What were Mme. Bernhardt's last words? O. C. J.

A. "Be a good boy, Maurice," Mme. Pierre Berton and Basil Woon thus quote the great tragedienne.

Q. Who was the first woman called to the bar in England? H. A. D.

A. Miss Joy Williams, a lecturer at Oxford, was the first to receive that honor. She was called to the bar on May 10th, 1922.

Q. Who was the Red Virgin of Montmarte? R. N. G.

A. Louise Michel, a French anarchist, who was deported and imprisoned at various times for her anarchistic teachings, was called The Red Virgin of Montmarte as a tribute to the purity of her life.

Q. Who was the wife of Thomas Jefferson? C. C. H.

A. Thomas Jefferson married Martha Skelton, widow of Bathurst Skelton and daughter of John Wayles.

Q. Did Mrs. Edith Bolling Wilson send one of her dresses to the National Museum for the costume exhibition of members of the various Presidents' households? J. T.

A. Mrs. Wilson did send a black velvet dress for exhibition in the National Museum, Washington. It is a simply cut dress, with V neck, draped sleeves, moderately short skirt, and train. The trimming is

that of jet buttons and tassels, the latter appearing on the sleeves.

Q. What was Lady Astor's maiden name? H. H.

A. Lady Astor before her marriage was Miss Nancy Langhorne of Virginia. When her husband, Major Waldorf Astor, succeeded to the peerage, his seat in the House of Commons became vacant, and his wife immediately stood for Plymouth on the Unionist ticket, as his successor. She won by a considerable plurality over the Labor and Liberal opponents, November 15, 1919.

Q. What is the inscription on the grave of Woodrow Wilson's first wife? J. S.

A. Herbert Adams' Memorial to Mrs. Wilson bears the following inscription: "Sacred to the Memory of Ellen Louise Axson, Beloved wife of Woodrow Wilson, born 15 May, 1860, at Savannah, Georgia, Died 6 August, 1914, at Washington, D. C. A traveller between life and death The reason firm, the temperate will Endurance, foresight, strength and skill. A perfect woman, nobly planned To warn to comfort and command, And yet a spirit still and bright With something of angelic light."

Q. What was the result of the search for the grave of Pocahontas which was undertaken about a year ago? A. C. H.

A. Pocahontas died on board ship at Gravesend, England. Her body has not as yet been found.

Q. Is it correct to refer to Martha Washington as Lady Washington? A. D.

A. Mrs. Washington was always, in the Army, called Lady Washington.

Q. What is the real name of Dorothy Dix? C. A. H.

A. Dorothy Dix is the pseudonym used by Mrs. Elizabeth Meriweather Gilmer. She has been writing on subjects of interest to women since 1896 when she became editor of the Woman's Department of the New Orleans Times-Picayune.

Q. Does Miss Helen Keller speak any language other than English? G. M. B.

A. Miss Keller speaks English, French, and German. Her German pronunciation is said to be excellent. A friend of Miss Keller's finds her French "much more intelligible than her English."

Q. Did Pocahontas have another Indian name? C. W. F.

A. The real name of Pocahontas was Matoaka. Pocahontas is a verbal adjective, meaning he or she is playful. This nickname was used by Pocahontas' father, Powhatan, in speaking with the Virginia colonists.

Q. When did Mrs. McKinley die and how long was she an invalid? L. F. S.

A. Mrs. McKinley was an invalid for over 20 years. She died in 1907.

Q. Please name some of the distinguished American women landscape architects. H. A.

A. Such a list would include the names of Grace Tabor, Elizabeth Strang, Beatrix Farrand, Marion C. Coffin, Ruth Dean, Annette Flanders and Ellen Shipman.

Q. When did Abraham Lincoln's mother die? Is her grave marked? A. J. G.

A. Her death occurred in Indiana, at a time when a frightful pestilence called milk sickness devastated the section. A stone has been placed over the grave of Mrs. Lincoln by P. E. Studebaker of South Bend, Indiana. The inscription reads: "Nancy Hanks Lincoln, mother of President Lincoln, died October 5, A. D. 1819, aged 35 years. Erected by a friend of her martyred son, 1879.

Q. What was Lillian Russell's maiden name and whom did she marry? H. L.

A. Lillian Russell was born in Clinton, Iowa, in 1861. Her name was Leonard. She was married four times. Her husbands' names were: Harry Braham, Edward Solomon, John Chatterton, and Alexander P. Moore.

Q. In what county or shire of England was George Washington's mother born? M. E. W.

A. Mary Ball, the mother of George Washington, was not born in England. Her birthplace was on her father's estate in Lancaster County, Virginia. She was born in 1706. Her father, Joseph Ball, had four children: Joseph Ball, Jr., Susie, Mary, and a fourth child whose name is not mentioned.

Q. Will you kindly name some American women who were prominent during the Revolution? A. H. D.

A. Among the outstanding women of the period were: Martha Washington, Sarah Hopton, Catharine Livingston, Deborah Samson, Mrs. Lewis Morris, Rebecca Biddle, and Mrs. Ralph Izard.

Q. Was Clara Barton a lover of music? A. M. H.

A. On the contrary Miss Barton is said to have had little if any love for music.

Q. When did Mrs. Bloomer die? M. B. F.

A. Mrs. Bloomer, from whose name was derived the common noun bloomer, died in 1894.

Q. Was the body of Marie Antoinette ever buried? C. T. B.

A. The body of Marie Antoinette was placed in a pine coffin and given an obscure burial in a corner of the cemetery of the Church of the Madeleine. Records of the church show an entry which reads, "For the coffin of the widow Capet, 7 francs."

Q. What occasioned the death of the second wife of Henry Longfellow? Q. D.

A. In 1861, Mrs. Longfellow was one day playing with her children, amusing them, by sealing up bits of their curls in tiny packages. From the burning wax, Mrs. Longfellow's dress caught fire. Her death occurred a few hours later.

Q. What American girl enlisted in the Continental Army for the whole term of the Revolutionary War? R. B.

A. Deborah Samson enlisted thus in October, 1778. The military authorities supposed of course she was a young man. She was received and enrolled in the Army as Robert Shirtliffe.

Q. When was Mary Baker Eddy born and when did she die? H. P. N.

A. She was born at Bow near Concord, N. H., July 16, 1821, and died December 3, 1910, at her home at Newton, Mass.

Q. Who was called the Mother of the Brazilians? M. W. B.

A. Dona Thereza, daughter of Francis I, king of the two Sicilies, was known as Mother of the Brazilians.

Q. Is Gertrude Atherton related to Benjamin Franklin? W. O. E.

A. Mrs. Atherton is a great grandniece of Benjamin Franklin.

Q. Please name some women who are leaders of the Italian feminist movement. A. H. D.

A. Signora Alice Schiaronia-Bosio, President of the Organization Committee of the Rome Congress; Teresa Labriola, a barrister, Margherita Ancona, member of the Board of Officers of the International Alliance; Signorina Ester Lombardo, editor of Vita Femminile; Professor Regina Terruzzi and Signora Argentina Altobelli.

Q. Is Alma Gluck, the singer, a native American? J. C. D.

A. Alma Gluck was born in Bucharest in 1886, but was brought to this country in 1889 and received all her education and training here.

Q. What baptismal name did Pocahontas take? D. K.

A. Rebecca.

Q. Please give the story of Annie Laurie. D. E. L.

A. Sir Robert Laurie, first baronet of the Maxwelton family, (created 27, March, 1685) had by his second wife, three sons and four daughters, of whom Anne was much celebrated for her beauty. She made a conquest of Mr. Douglas of England, who composed a poem to her—one not unlike the poem used by Lady John Scott in her musical arrangement of the familiar song. Anne Laurie married Mr. John Ferguson of Craigdarrock.

Q. Please tell me how the record of Pochantas' burial reads. H. S. M.

A. In the parish register of Saint George's, Gravesend, there is the following entry: "1616 (1617), May 2, Rebecca Wrothe wyff of Thomas Wrothe, gent. a Virginia lady borne, here was buried in ye chauncill."

Q. Please give a short sketch of Ida Lewis, the life saver. J. E. B.

A. Ida Lewis, the American life saver, was born at Newport, R. I. in 1841. By a special Act of Congress she became keeper of the Light Rock Lighthouse, Newport Harbor, of which her father had been keeper for many years. Expert at the oar and in swimming, she saved 22 lives between 1867 and 1904, receiving medals from the United States Government, the Humane Society of Massachusetts and the Life Saving Benevolent Society of New York. Her boat, the Rescuer, presented to her by the citizens of Newport. was exhibited at the Columbian Exposition, Chicago, in 1893. Her death occurred in 1911.

Q. Was George Eliot ever married? F. J. L.

A. George Eliot and George Henry Lewes were not married, but after his death and a few months before her own she married J. W. Cross, an American—an old friend of her own and of Lewes'.

Q. Was the famous Italian medium Palladino ever exposed as a fraud? N. A. B.

A. Despite the fact that it was proved that Palladino practiced fraud at times, the supernormal character of certain physical phenomena which occurred in her presence has never been explained. It is said of her that for over 20 years she remained an unsolved puzzle and defied solution at the hands of many skeptical investigators.

Q. How long did it take Nellie Bly to go around the world? What conveyances did she use? J. H. M.

A. Nellie Bly was a reporter on the New York World, and in November 1889, undertook to make a trip around the world for her paper to demonstrate the feasibility of the adventure recorded in Jules Verne's novel Around the World in 80 Days. She accomplished the trip in 72 days, 6 hours, and 11 minutes. Miss Bly used steamboats, railroad trains, and horse vehicles exclusively, this being before the era of automobiles and flying machines.

Q. Were the Sonnets from the Portuguese really translations? T. S.

A. The title was used merely as a disguise by Mrs. Browning. The sonnets in reality relate to the time of her courtship when she hesitated to accept Robert Browning because of the physical injury which rendered her an invalid for many years.

Q. How long did Helen Keller study the raised alphabet before learning the letters? K. B.

A. Her teacher is authority for the statement that Miss Keller learned all the letters, both capital and small, in one day.

Q. How large an estate did Martha Washington have when she married? G. W.

A. Mrs. Washington owned 15,000 acres of land, many city lots, 200 negroes and money.

Q. What did Mrs. Russel Sage do for bird protection? R. V.

A. In 1913 Mrs. Sage took first position among the founders of the Permanent Wild Life Protection Fund by a gift of $25,000 to the endowment, representing very nearly one-quarter of the entire fund. At a total cost of $160,000 she purchased Marsh Island, of 72,000 acres, on the coast of Louisiana, about 150 miles west of New Orleans, and presented it as a game sanctuary to the State of Louisiana, for the benefit of the law-abiding sportsmen of the United States and Canada. In addition to this, Mrs. Sage gave about $23,000 to other bird-protection causes, making her total credit in that line of endeavor about $208,000. The Permanent Fund awarded her its gold medal for distinguished services to wild life.

Q. How often was Jenny Lind in the United States? M. G.

A. She made but one trip to this country, coming in 1850 and returning in 1852.

Q. Who was Mrs. Partington? C. M. K.

A. She was an anecdotal character of Sidmouth, England, who attempted to stem the incoming tide of the Atlantic Ocean with a mop during a great storm in 1824, and referred to by Sidney Smith in a speech delivered at Taunton, England in 1831, to point out the futility of the opposition of the House of Lords to the reform movement. Mrs. Partington is also the name of a character noted for her laughable misuse of words in many sketches by B. P. Shillaber, an American humorist. He published the first of Mrs. Partington's sayings in the Boston Post in 1847.

Q. When did Mrs. Lincoln die? J. M. C.

A. After the death of President Lincoln, Mrs. Lincoln suffered from a species of melancholia. She traveled in Europe with her sister and son. She died at the home of her sister, Mrs. Edwards, at Springfield, Ill., July 16, 1882.

Q. Why was Beatrice Cenci executed? S. A. M.

A. Beatrice Cenci was the daughter of a Roman patrician. She was born in Rome, February 12, 1577. Her father for many years abused his wife and family in the most cruel way and as a result the family procured his murder. They were tried and sentenced to death. Beatrice was executed September 11, 1599. The circumstances of her life have long caused her to be considered a martyr and her history has been the theme of several poems.

Q. What was Ouida's real name? J. V.

A. Louise de la Ramie wrote under the pen name of Ouida.

Q. Does Mlle. Suzanne Lenglen use an American make of tennis racket? E. H. Y.

A. The United States Lawn Tennis Association says that Mlle. Lenglen uses a racket of French make.

Q. Who was Peggy O'Neill? B. W.

A. Peggy (Margaret) O'Neill was the daughter of a Washington tavern keeper, noted for her beauty and wit. She first married a purser in the United States

Navy, named Timberlake. After his death she married Major J. H. Eaton, who soon afterwards became a member of President Jackson's Cabinet as Secretary of War. The wives of the other Cabinet members generally refused to recognize Mrs. Eaton, and Jackson, an old friend of both Mr. and Mrs. Eaton's, failing in his attempt to break down the opposition, affected an almost complete reorganization of his Cabinet.

Q. Where did the name the Divine Sarah for Sarah Bernhardt, originate? A. L. O.

A. Oscar Wilde called her the Divine Sarah long before he ever met her. It clung to her all her life.

Q. Who was Calamity Jane? L. J. R.

A. Calamity Jane was an American Army scout and mail carrier. She was an aide to General Custer and General Miles in numerous campaigns and carried mail between Deadwood, S. D., and Custer, Mont.

Q. Who was Madam Sarah Knight? J. B.

A. Madam Knight was the wife of Richard Knight of Boston. She was born in that city in 1666. Following the death of her husband in England, Madam Knight opened a school in Boston. Among her pupils were Samuel Mather and Benjamin Franklin.

Q. Can you tell me the malady from which Pocohontas died? I. H.

A. The tradition is that Pocohontas died of tuberculosis.

Q. Was Clara Barton a Government employee when she became a Civil War nurse? S. S.

A. Clara Barton was a clerk in the Patent Office from 1854 until she resigned to become a volunteer nurse.

Q. Was Emma Goldman deported or did she leave of her own free will? H. E. C.

A. The Labor Department says that Emma Goldman was deported in December, 1919, and can never return to this country.

Q. Did Benedict Arnold's wife survive him? W. F. W.

A. He was survived by his wife and four sons by his second marriage. Mrs. Arnold was given an annuity of 500 pounds for herself and 100 pounds for each of her children.

Q. Why was Henry Clay's wife buried crosswise at his feet? J. K. D.

A. The Superintendent of Lexington Cemetery says that owing to the space in the vault and in accordance with the wishes of the family, the body of Mrs. Clay was placed in this position.

Q. What woman was given permission by Congress to wear male attire? W. E. S.

A. Dr. Mary Walker had this privilege. She was the first woman to be an assistant army surgeon—the post she held during the Civil War.

Q. Who was the first woman physician to get her diploma in the United States? F. R. M.

A. Elizabeth Blackwell, who received her M. D. from Geneva College in 1849, was the first.

Q. Was Mary, Queen of Scots, a woman of great personal charm? I. W.

A. She was reputed to be the most beautiful woman of her time. She was a woman of varied accomplishments and great ability, and her life was filled with dramatic events.

Q. Who was Mrs. David Lloyd George prior to her marriage and where was her home? C. L.

A. Mrs. Lloyd George was Margaret ("Maggie") Owen, daughter of Mr. Richard Owen of Mynydd Ednyfed Fawr. Her distinguished ancestors include Owen Glyndwr, the famous Welsh warrior and statesman, and Hywel Dda, one of the greatest Welsh kings.

Q. Who was known as The Belle of Epping Forest? K. S.

A. Mary Washington, the mother of George Washington, was called The Belle of Epping Forest. She was born in Lancaster County, Virginia, 1706 and died near Fredericksburg, Virginia, August 25, 1789. She was a beautiful woman, possessed of a remarkable force of character. Her marriage to Augustine Washington occurred March 6, 1730. In April 1743, Augustine Washington died. The management of his affairs fell upon his widow. She reared her children in simple piety and under strict discipline.

Q. Where is Edith Cavell buried? J. M. B.

A. On May 5, 1919, the body of Edith Cavell was removed to Norwich Cathedral in England after memorial services had been conducted in Westminster Abbey.

Q. Who were Marie Corelli's parents? M. A. L.

A. Marie Corelli was the adopted child of Charles Mackay, the poet. The novelist's birth certificate was published recently, which shows that she was Caroline Cody, daughter of Thomas Cody, a laborer.

Q. Was Betsy Ross a Quaker? E. B. F.

A. Elizabeth Griscom, (Betsy Ross), was a daughter of Samuel and Rebecca (James) Griscom. She was born January 1, 1752, at Philadelphia, Pa. Her parents were Quakers. Betsy was the seventh daughter. In consequence of her marrying an Episcopalian she was disowned by the Friends. In 1777 she made the National Flag.

Q. Who was H. H.? S. G. A.

A. H. H. was the pseudonym of Helen Maria Fiske who was Mrs. Hunt and afterward Mrs. Jackson.

Q. Is Katrina Van Tassel, the heroine of the Legend of Sleepy Hollow, buried at Sleepy Hollow? S. G.

A. There is a gravestone in the Sleepy Hollow Cemetery inscribed with the name of Katrina Van Tassel, but as she lived later than the time of the story, it is obvious that this is not Irving's Katrina. Many sightseers have chipped the stone, however, in the belief that they were obtaining souvenirs associated with Washington Irving.

Q. What relation was Marion Harland to Virginia Terhune Van de Water? W. N.

A. Marion Harland was the nom de plume under which Mrs. Edward Payson Terhune wrote. This noted woman died on June 2nd, 1922, leaving three children, all of them writers of note. Two of them are daughters, Mrs. Virginia Terhune Van de Water, and Mrs. Christine Terhune Herrick, and the other a son, Albert Payson Terhune.

Q. How tall is Mrs. Coolidge? B. F.

A. She is approximately 5 feet 4 inches tall and weighs about 130 pounds.

Q. Of what magazine was Sarah J. Hale, the editor? D. H. S.

A. In 1828 S. J. Hale became editor of the "Ladies' Magazine." In 1837 this periodical united with "Godeys Ladies' Book," of which Mrs. Hale was literary editor for more than forty years. The familiar poem which begins, "'It snows!' cries the schoolboy," is hers.

Q. When and where was Judge Kathryn Sellers of the Juvenile Court of the District of Columbia born? H. P.

A. She was born in Broadway, Ohio, December 25, 1870.

XXVI

FISH

Q. Do fish sleep? S. L. L. F.

A. The Bureau of Fisheries says that fish do not sleep. At times they remain quiet in pools and streams.

Q. Do fish feel pain from a hook or a spear? H. W. E.

A. Fish do not suffer much when they are hooked or caught. Some trout have been known to be hooked two or three times in the same day, the fisherman using the same type of bait. Fish, no doubt, have a sensation of discomfort but not so great as that of the higher animals. In general, a fish must feel some pain on some parts of the body, but has few nerves around the mouth where it is apt to be hooked.

Q. Do fish live in the Dead Sea? C. C.

A. On account of its extreme salinity, fish can not exist in the Dead Sea.

Q. How many kinds of fish are there? I. E. C. M.

A. As far back as 1800, Dr. Gunther, of the British Museum, had listed about 3600 species of salt water fishes and about 2,300 species of fresh water fishes. Since then the number of known species has increased to several times these numbers, and new species are constantly being identified.

Q. Is there a singing fish? R. E. S.

A. The sapo which lives under stones near the shore is often called the singing fish on account of a peculiar humming noise that is made by its air bladder. Sapo is a South American name for various toad fishes, especially for the singing variety which is found along the California coast.

Q. What people first used or invented fish nets? E. N. G.

A. The Phoenicians are credited with having invented both the fishing line and the fish net, and when they could no longer catch fish from the shore they constructed canoes of hollowed logs and built rafts with bushes for sails to follow the fish out to sea, and from this they are also credited with the invention of shipbuilding and navigation.

Q. Can a fish remain alive after being frozen in a cake of ice if the ice is melted naturally? A. W.

A. It is possible for fish to remain alive after being frozen in a cake of ice. There is an instance where goldfish remained alive after being frozen in a pond all winter. In Siberia there are rivers containing fish which are buried in the mud and which are frozen all winter, but are alive in the spring.

Q. Is there a fish that is burned to give light? C. T. A.

A. The oolachan or candlefish which is found on the Pacific coast from Oregon upward, is dried and used as a lamp by the Alaskan Indians. It is a fish from 12 to 15 inches long, with very oily flesh.

After the fish is dried a piece of rush pith or strip of inner bark of a cypress tree is drawn through it for a wick.

Q. Is there a fish that can swallow another fish larger than itself? K. L. W.

A. The deep-sea fish Chiasmodon Niger, famous for its voracity, sometimes manages to swallow a fish larger than itself, which causes an extraordinary protrusion of the stomach.

Q. Can fish hear? E. L. R.

A. Fish have no external nor middle ear but only an inner one. Various experiments point to the conclusion that the ear in fish is merely an organ of equilibrium.

Q. Do deep sea fish burst when caught and brought out of the water? A. C. F.

A. Deep sea fishes, such as the red snapper, when they are brought up from great depths too quickly burst as the sudden change is too great for the capacity of their air bladders.

Q. How should minnows be cared for? R. M. F.

A. The best way to keep live minnows is to put them in running water of the same temperature of water from which they were obtained and feed them bread crumbs and soft scraps.

Q. Hay many eggs are there in a shad roe? M. C. H.

A. In the average shad roe there are from 30,000 to 40,000 eggs.

Q. Will gold fish that are kept in a bowl spawn? G. W. G.

A. Gold fish will not breed in small aquariums. It is necessary to provide a five or six gallon tank and plenty of plant life for the fish to lay eggs on.

Q. What is a pilot-fish? O. A. S.

A. It is a fish of the open ocean, of the family of horse-mackerels, attaining a length of about twelve inches, having a peculiar habit of keeping company with ships and large fishes, especially sharks.

Q. Can fish see better at night than in the daytime? J. M. B.

A. Fish see very clearly. They can see better in the day than at night within a certain radius, depending on the amount of light. When catching the brook trout one has to be very careful as this fish has keen eyesight.

Q. Does a whale spout water? H. G. Y.

A. The idea that a whale takes water in at the mouth and blows it out through the nostrils is baseless, although water may be blown in the air if the breath is released before the animal has quite reached the surface. The so-called blowing of a whale takes place through the nostrils, and is merely the release of the long-confined moisture-laden breath, which condenses in the cooler air and gives the appearance of a column of water being blown from the nostrils.

Q. Where are goldfish propagated that are sold for aquariums? G. G.

A. Frederick County, Maryland, produces more goldfish than any other part of the United States.

Q. If a lobster loses a leg will a new one grow in its place? A. R.

A. An antenna or leg is gradually renewed, growing at every molt. This is also true of the crayfish.

Q. Is the fish, whose eggs are sold as caviar, a large fish? K. E. H.

A. The Russian sturgeon, known as beluga or husco, is very large. It has been known to grow to the length of 20 to 25 feet and

to weigh 3,000 pounds. At spawning time, a female produces from two to three million eggs, constituting from one-fifth to one-third of the entire weight of the fish.

Q. What kind of fish are used in making beads? M. K.

A. The scales of the ukelei fish are commonly used in the making of artificial pearls. This fish is found in European waters.

Q. What city is the fishing capital of the United States? W. T. L.

A. Boston is considered the fishing center of this country and is second only to Grimsby, England, as the world's leading fishing port.

Q. Can fish live without air? E. M. C

A. Fish do not breath air. They breath oxygen which they extract from water through their gills. Cold water fish require less oxygen than warm water fish.

Q. How many eggs does an oyster lay? H. T. T.

A. An average oyster produces about 16,000,000 eggs, a very large oyster sometimes producing 60,000,000.

Q. Are crayfish akin to lobsters? C. G. S.

A. Shrimps, prawns, and crayfish are allied to the lobster, the crayfish often being called fresh water lobster.

Q. How is the age of a turtle determined? H. S.

A. There is no sure way in which to determine the age of a hard shell turtle. In most instances the plates are examined closely with a microscope and on these plates there can be noticed scale expansion. This scale expands as the turtle grows leaving a ring of growth. These rings are counted the same as those of a tree.

Q. What are the largest food fish? P. H.

A. Sturgeon, tuna, and sword fish which sometimes attain a weight of 1,000 pounds, are probably the largest fish caught for food.

Q. How do turtles breathe? L. C. S.

A. They breathe through nostrils. When under water they expel the air and come to the surface for more air. When buried in mud, they are dormant for the time being, not requiring air.

Q. Are fish light on one side and dark on the other? J. H.

A. It depends upon the interpretation of the word side. Most fish have dark backs and white bellies. Flat fish which swim on one side, are dark on the side exposed to the light, and light on the side which is underneath.

Q. My goldfish are becoming lighter in color and the tails are fraying. What causes this? A. K. W.

A. The coloring in goldfish gradually fades out. However, if the tail is fringed or frayed this is caused by a fungus growth and it is advisable to give the fish a salt bath frequently.

Q. Are bass considered food fish or game fish? W. S. H.

A. This is a disputed question. In many sections of the country the bass is both a commercial food fish and a game fish.

Q. Does a fish bite the bait by sense of smell or sight? And does it smell with its gills or nose? W. Z.

A. The Bureau of Fisheries says that fish bite bait both by the sense of smell and the sense of sight. However, they bite most frequently by the sense of smell as this is keenly developed. A fish smells through its nose.

Q. Please inform me how salmon manage to jump up a fall or like obstruction in a river. W. E. P.

A. At the bottom of a fall there is usually a very deep well. The salmon swim to the extreme bottom of this well, and if they have sufficient depth of water to give force to get the power to jump, they do so by swimming very fast and rushing out. This force mechanically causes them to jump the fall.

Q. Can the male fish be distinguished from the female in color? B. K.

A. In fish of the same species it will be found that the female is darker than the male.

Q. Does an eel have scales? E. S. L.

A. The eel does have scales embedded in its slimy skin. They are arranged in little groups set obliquely and at right angles to each other.

Q. Is a jelly fish really a fish? P. F. F.

A. The jelly fish may be termed a fish in the broadest sense of the term, which includes almost any exclusively aquatic animal. Strictly speaking, the jelly fish is not a fish because the term in modern significance is applied only to aquatic vertebrates.

Q. Where did goldfish originate? A. P.

A. Goldfish are but a variety of the carp, and owe their existence to the Chinese and Japanese people who, since the sixteenth century, have kept them in a domesticated state, and by selective breeding have eliminated the sombre colors of the ancestral stock and produced the beautiful colors we now see. During their first year goldfish are brown, after which they assume a silvery tint, and as they grow older they change to gold.

Q. How long do turtles live? H. B. T.

A. All of the species are extremely tenacious of life; they are capable of extraordinary abstinence, and of living long after having sustained injuries which would have destroyed almost any other animal. They are remarkable for longevity. Specimens of small species have been known to live more than 100 years.

Q. Are sponges plants or animals? N. T. P.

A. Sponges are popularly regarded as a kind of sea plant, but in reality they are the skeletons of a low type of animal. They are reproduced by means of eggs, and the developed larvae are partly clothed with small hairs which enable them to swim or drift around until they find suitable places for adhesion.

Q. Does a tadpole become a toad or a frog? H. V. H.

A. The young of both frogs and toads hatch as tadpoles. The tadpoles which are seen in goldfish bowls eventually become frogs. They remain tadpoles for about a year. Toads remain tadpoles but a few weeks.

Q. Are fish scales of any use commercially? R. J.

A. Great quantities of fish scales are used in making artificial pearls.

Q. Why do crabs turn red when dropped in boiling water? J. M.

A. It is due to a chemical change.

Q. Do salmon spawn only once in a life time, and shortly afterwards die? E. L. C.

A. There are ten easily recognized kinds of salmon, only one of which is known to die immediately after spawning. This peculiar salmon is common on the Pacific Coast.

Q. What kind of fish have tags on their tails? M. E. A.

A. No fish naturally have tags on their tails. But the Bureau of Fisheries has a system by which fish are tagged. They are caught, measured and weighed, an aluminum tag attached to the tails, and then returned to lakes and streams. A premium of twenty-five cents is given any fisherman who returns a tagged fish, as these can be observed a second time and a comparison made.

Q. In what part of the whale is the whalebone found? C. J. S.

A. Baleen, commonly called whalebone, grows in the mouth of certain whales. It grows in dependent plates, ranging from 2 to 12 feet in length, attached to the upper jaw, and forms a fringe-like sieve for collecting and retaining food.

Q. Is there an eel which gives off an electric current? I. N.

A. The electric eel does give off an electric current. The electric organs, eight in number, lie lengthwise along the backbone of the eel.

Q. What deep sea fish has the largest eggs? B. K. T.

A. The eggs of the halibut are the largest of the deep sea fish. One fish, weighing 190 pounds, was observed and the total weight of its eggs was 17 pounds, 2 ounces. It is estimated that they would number 2,182,000.

Q. Is one side of the halibut fish light, and the other dark? L. S. W.

A. The halibut lies on its left side, which is white, the right one which is uppermost, being dark brown and bearing both the large eyes.

Q. Do flying fish have wings? H. L. J.

A. The so-called flying fish have no wings, but do have large fins. They will fly a distance of from a few rods to more than an eighth of a mile, rarely rising more than three or four feet.

Q. Is a dolphin an animal or a fish? R. A. G.

A. In ancient times the dolphin was considered a fish. It is in reality an animal and does not have scales. The skin is tanned and used as a leather.

Q. What do oysters eat? R. M. S.

A. The food of oysters consists of microscopic plants or diatoms which water currents take to them.

Q. In what part of an oyster is a pearl found? G. B.

A. By far the greater number of round pearls are found in the thick fleshy portion of the mantle near the inhalent or exhalent orifice, and generally near the mantle edge.

Q. Why do fish swim upstream? E. D. L.

A. Generally speaking fish swim upstream as they are then heading against the current and it is easier to get food.

Q. Can a goldfish be tamed? A. B. M.

A. It is not unusual to tame goldfish although some are more easily tamed than others. They are often known to come to the top and eat out of one's hand.

Q. Is a crab a fish? E. K. A.

A. A crab and a fish are not the same. A crab is an animal of the class crustacea, which class has ring shells and hard backs. A fish is an animal of the vertebra class, and has a decided spinal column.

Q. Will it kill a fish to scale it? L. C.

A. A fish can not live after it has been scaled.

XXVII

FOOD

Q What kind of meat is preferred by Americans? A. S. N.

A. A survey now being made indicates that beef is first in favor with pork second.

Q. Is canned reindeer meat on the market? G. B. K.

A. While it does not appear on the market at present, the availability of reindeer meat for canning has been pointed out. Reindeer meat is a staple food of the Northlanders and is pronounced excellent by epicures in warmer climates

Q. What part of the weight of a fowl is lost in dressing it? L G.

A The weight of a fowl after the head, feet, bones and inedible entrails have been removed is from 15 to 20 per cent less.

Q. How is milk chocolate made? L. B

A Milk chocolate is made of ground cocoa bean 7 parts; powdered cane sugar 9 parts; milk powder 6 parts; cocoa butter 3 parts. The material is very finely rolled at a temperature of from 60 to 70 degrees C. The finished mass is immediately moulded.

Q. How can nuts be cracked so that the meats will come out whole? C. R. T.

A. Putting the nuts in boiling water for three to five minutes makes it possible to crack them when cool and remove the meat whole.

Q. Are condiments classed as foods? N. T.

A. They are known as food adjuncts. They are used to stimulate the appetite by adding flavor to food. Among the most important are salt, pepper, cayenne pepper, mustard, ginger, cinnamon, cloves, pimento, nutmeg, mace, vinegar, capers, and horseradish.

Q. Did Dolly Madison invent ice cream? R. K. C.

A. To Dolly Madison, wife of a President of the United States, is sometimes given the credit for inventing ice cream. It is further asserted that it was another woman, Nancy Johnson, wife of a young naval officer, who invented the ice cream freezer.

Q. How much food does one person eat in a year? D. D.

A. It is computed that 1355 pounds of food are consumed during one year by each adult in the United States.

Q. Is tripe a kind of fish? N. I.

A. Tripe is the stomach of any ruminant animal.

Q. How is tapioca made? F. A. C.

A. The starch of cassova, a large shrubbery plant, dried quickly under the action of intense heat, when in a semi-solid and moist condition, agglomerates into small irregular masses and then forms the well known article of food called tapioca.

Q. Are there any people who eat all their food raw? D. T. L.

A. At the present time it is doubtful whether there are any people who do not use some process of preparing or cooking food. The extremely far northern Eskimos habitually eat their meat in a raw state, other food consisting entirely of uncooked fruit or berries. But it has been found that even these tribes occasionally thaw out frozen meat through a partial process of boiling.

Q. What kind of vinegar should be used in horse radish? J. J. M.

A. It is essential that white wine vinegar be used to keep horseradish white. Cider vinegar always darkens it.

Q. Where are most of the pecans and English walnuts raised in this country? C. W. B.

A. The area of the most extensive plantings of pecans lies in Alabama, Louisiana, Georgia, and Florida. The most extensive plantings of English walnuts are in California.

Q. When honey is used instead of sugar how much should be used? W. D.

A. As honey contains about 20 per cent of water or a little more, it would require 20 per cent more honey than sugar when it is used as a substitute.

Q. Of what use is garlic in the diet? A. M.

A. Garlic is more of a condiment than a food and its use stimulates the appetite and promotes digestion. It quickens the circulation, excites the nervous system and acts as a tonic.

Q. When are hams at their best? G. C.

A. A well cured ham is usually in perfection when one year old.

Q. Do Americans eat as many crackers as Englishmen do? W. W. S.

A. Our annual per capita expenditure for crackers is only one-tenth of that in England. It is probable that the demand in Great Britain for jams, marmalades, and cheeses adds to the popularity of biscuits, as they are called.

Q. Are there special brain foods? F. V.

A. It used to be believed that certain foods, especially fish and other foods containing phosphorous, were especially valuable for the gray matter of the brain. This is not believed any more. Brain cells apparently use the same kinds of food materials as all other living cells do. The best way to feed the brain well is to keep the body in good health.

Q. Are water, tea, coffee, chocolate and cocoa all foods? W. J.

A. Water may be regarded as the most important of all foods, but tea and coffee are classed as stimulants. Both chocolate and cocoa possess large food values.

Q. How many kinds of mushrooms are edible? R. W. V.

A. More than 700 species of mushrooms have been proved edible and authorities state that many others doubtless will be proved fit for food.

Q. What is olla podrida? J. E. C.

A. Olla podrida is one of the national dishes of Spain. It is a rich stew made of meat, sausages, chicken, and peas. Because of the varied character of the mixture, its name is often used to describe any jumble of words or ideas.

Q. Are foods containing gelatine injurious to the health? W. A. F.

A. Gelatine although not a life-sustaining food, is used in considerable quantities in hospitals and is recommended by physicians as an article of diet because of its

quality of making other foods more palatable or more easily digested.

Q. What foods do not contain acid? S. E. W.

A. The following foods contain no acid: Oatmeal, cream of wheat, potatoes, green vegetables, such as cauliflower, cabbage, onions, beets, carrots, spinach, asparagus, etc., white bread, butter, milk and cream, eggs and simple puddings, such as rice pudding, chocolate pudding, bread and custard puddings.

Q. What is a Strassburg pie? H. C. H.

A. Strassburg pie is another name for pate de foie gras.

Q. What is included in a New England boiled dinner? T. M.

A. Corned beef, potatoes, carrots, turnips, cabbage, and onions are the usual ingredients of a New England boiled dinner. Sometimes salt pork or ham bone is used as a basis for such a dish.

Q. How much sugar, tea, and coffee does the average family use? G. N. D.

A. According to a survey made by the Department of Labor, the average annual consumption per family is: sugar, 147 pounds; tea, 8 pounds; coffee, 40 pounds.

Q. Does America throw away enough food to feed a nation? J. E.

A. The opinion is expressed that the average American family wastes in a year sufficient food to keep another family of equal size. Among the chief articles wasted are meats, only the choicest portions being consumed; such table vegetables as lettuce, celery, and other undressed items; milk, great quantities of which are permitted to sour and be thrown away without being utilized.

Q. Why is graham flour so called? E. Q. M.

A. This flour takes its name from Sylvester Graham, who first claimed for this unbolted flour a great nutritive value.

Q. How long will bread keep? G. R.

A. The length of time that bread will keep depends upon the ingredients. The famous honeybread of Germany and France will keep a year or 18 months without drying out or spoiling.

Q. Does the peanut actually belong to the nut family? S. N.

A. The peanut is not a nut. It belongs to the same family as the common pea and bean. The term nut was applied to it on account of its flavor, which is similar to that of some true nuts.

Q. Why does food continue to cook after it has been placed in a fireless cooker? S. M.

A. Food cooks as long as it is at cooking temperature. This temperature is attained before the food is placed in the fireless cooker. The cooker is merely a receptacle so constructed that there is practically no loss of heat.

Q. What is the process for salting peanuts in the shell? F. J. K.

A. Salting peanuts in the shell is done quite extensively in the tropics. The peanuts are boiled in a salt liquid and then allowed to dry, after which they are roasted. No special equipment is required for this process.

Q. Is it more economical to make bread than it is to buy it? C. J.

A. When material, fuel, and labor are considered the price differs very little. If the housewife places no value on her time and if the stove be hot anyway, it is more economical to make bread at home.

Q. What per cent of sugar is there in the following: raisins, dates, and figs? C. A. B.

A. Raisins contain 61 per cent sugar; dates 66 per cent; and figs 48 per cent.

Q. Should cheese be kept in air-tight receptacles? G. N. D.

A. When cheese is put in a covered dish, the air should not be entirely excluded, as cheese molds more readily when tightly covered. One of the best ways of keeping cheese is to wrap it in a slightly damp cloth and then in paper.

Q. What is burgoo? M. M.

A. This is an oatmeal pudding or thick gruel served to seamen on shipboard.

Q. How long will white flour keep? H. O. H.

A. Under proper storage conditions flour should keep entirely satisfactorily for three months. Much of the high grade wheat flour is kept for a considerably longer period of time, even for a year or more and such flour is satisfactory for bread-making purposes.

Q. What food adds lime to the body? F. H. L.

A. Milk is the chief food for lime. Lime is used especially in the bones and teeth, but is also found in other tissues, and in the blood. Lack of lime in the diet causes soft teeth and poor bones.

Q. Are there any figures on how much canned food is consumed by the average American family? T. N. S.

A. A survey made by the U. S. Bureau of Labor Statistics gives the following percentages of all families using six particular products: Canned salmon, 60.8%; milk, condensed or evaporated, 60.5%; baked beans, canned, 36.1%; canned peas, 55.0%; canned corn, 58.2%; canned tomatoes, 50.2%.

Q. Is the alligator flesh fit to eat? H. G. F.

A. The flesh of alligators is white and tender, but has a musky taste. It is eaten by Indians and occasionally by some other people.

Q. If flour is kept in a closed room with a tar paper roof and near moth balls, will it absorb the odors? H. C. H.

A. It will not only absorb the odor but if kept in such a room for any length of time will have a tarry taste.

Q. Why is salt such a good preservative of vegetables, meat, fish, and other foods? E. W.

A. When sprinkled on meat, fish, or vegetables, salt extracts water from them, forming a solution so strong that bacteria can not grow therein.

Q. How ripe should apples be to make sweet cider? K. F.

A. Only fully matured, tree-ripe, perfectly sound fruit should be used. An apple is considered cider-ripe when about midway between market ripe and dessert ripe. It should have begun to soften very slightly, but still be too firm to eat out of hand.

Q. How is grape juice prepared for invalids? M. T.

A. In sanitariums white of egg is often added to grape juice. To two tablespoonfuls of grape juice in a wineglass, add the beaten white of one egg and a little chopped ice, and sprinkle sugar over the top.

Q. Should potatoes be cooked in salted or unsalted water? F. W. H.

A. Potatoes should be put on to cook in salted, boiling water. Salt added at the beginning of the cooking reduces the loss of mineral matter about one-third.

Q. Has cooked cabbage as great a vitamine content as raw cabbage? F. M. B.

A. Cooking cabbage reduces the vitamine content two-thirds, the most marked difference being in vitamine C. Vitamine B remains the same and vitamine A is reduced.

Q. When fruit is eaten for a laxative, should it be eaten at meal time or by itself? A. B. L.

A. It is more laxative when eaten between meals, a half hour before breakfast or late at night.

Q. What are corn flakes made of? P. E. B.

A. Corn flakes are made from hominy grits which are treated so as to change the composition and soften the grits so that they may be rolled out flat between rollers. The flakes are then toasted.

Q. When were cranberries first served with turkey? J. R.

A. American cranberries were found growing wild by the early Pilgrims. It is thought that they served them with wild turkey on thanksgiving days, and for this reason have become associated with turkey and Thanksgiving Day.

Q. Are mushrooms thoroughly digestible? F. W. D.

A. The numerous studies which have been made show that mushrooms are not thoroughly digested. Recent experiments show that 25.58 per cent is indigestible.

Q. What vegetables are good for the nerves? E. S. T.

A. The vegetables that stand high on the list of nerve-tissue building foods are spinach, celery, parsnips, string beans, asparagus, and cucumbers.

Q. What kind of potatoes should be used for making potato chips? I. E. B.

A. Green Mountain potatoes and Rural New Yorkers are considered among the best varieties for potato chips.

Q. What state had the first pure food law? A. A. A.

A. The first law of this kind along practically the line of the later Federal law, was passed by the State of Michigan in 1895. Wisconsin passed a similar statute three years later.

Q. Should canned tongue be cooled before being used? E. A.

A. The Grocer's Encyclopedia says that dealers should never sell a can of tongue, or of any meat or fish during warm weather without reminding the buyer that it should be cooled thoroughly before opening.

Q. Should sugar be served with grapefruit? O. A. P.

A. To obtain its full medicinal value grapefruit should be eaten without sugar but the addition of sugar adds to its palatability. The grapefruit is decidedly anti-scorbutic.

Q. What are capers? N. A. W.

A. Capers are unexpanded flower buds of a tropical plant, preserved in vinegar. They are imported, but are fairly common in shops and are most often used in a gravy to give relish to boiled mutton or to garnish salads.

Q. What is tuckahoe? R. S. G.

A. This is a name applied by the Algonquin Indians to many roundish roots. Specifically it included the golden club and the arrow arum, both having fleshy rootstocks, acrid when fresh but rendered edible by cooking and abounding in starch. Another highly prized tuckahoe is a subterranean fungus found in the Southern States. It is not unlike a cocoanut. It is also known as Indian bread or Indian loaf.

Q. What are the so-called unsophisticated foods? N. P.

A. This phrase is used by Lieut. Col. Robert McCarrison, a distinguished British military surgeon. He uses the term in reference to whole grains, milk, eggs, fruits, and vegetables.

XXVIII

FOREIGN COUNTRIES

Q. Has England a constitution which corresponds to ours? M. B.

A. The British Constitution is an unwritten, indefinite body of legal rules and principles which are partly the result of judicial decisions and partly Acts of Parliament. They are not collected.

Q. What is the oldest city that is still in existence? G. S.

A. Damascus is thought to be the oldest city of the world. The origin of the city is unknown. However, its foundation is attributed by Josephus to Uz, the son of Aram.

Q. Is it true that voting is compulsory in Argentina? W. B.

A. The Argentine Embassy says that every man on reaching army age in Argentina is given a book with a registration number and other statistics. Every vote is recorded in this book and if not recorded or if the man does not vote, a fine is imposed varying according to the judgment of the court. Women do not vote in Argentina.

Q. What country has neither prisons nor policemen? R. G.

A. This is said of Iceland.

Q. What country in South America has no seaport? J. B. D.

A. Neither Bolivia nor Paraguay has a sea coast or seaport.

Q. Who first called Ireland the Emerald Isle? M. E. M.

A. This name, given Ireland on account of the richness of its verdure, was first used by Dr. Drennan in a poem entitled Erin. Dr. Drennan lived from 1754 until 1820.

Q. Is the United States the oldest republic? W. M.

A. San Marino claims to be the oldest existing republic. It has had ten centuries of uninterrupted existence.

Q. Where is the throne of England actually situated and of what does it consist? P. T. D.

A. The throne is in the House of Lords, separated from the woolsack by a brass rail except when the sovereign is present. It is a Gothic chair made of oak and is occupied by the King when he opens Parliament.

Q. When was the Home Rule for Ireland movement started? L. H. D.

A. This term in British politics designated a particular movement begun in 1870, to secure for Ireland a local legislature and thus recognize and satisfy a persistent sentiment of Irish nationality.

Q. Do the civil officials in India wear uniforms? S. D.

A. For occasions of state, they wear blue uniforms of various shades.

Q. When were the last British troops withdrawn from Ireland? L. P.

A. The last British troops in the Irish Free State, 3,000 in number, left Dublin for London on December 17, 1922.

Q. Why was Greenland so-named? P. J. K.

A. Greenland was named by the Norwegian explorer, Eric the Red. Upon his return from Greenland in 985, he gave the new country that name in order to make people more willing to go there.

Q. Can Government land be obtained in South America? V. L. N.

A. The Pan American Union says that there are no homestead lands in South America, but land is sold very cheaply there.

Q. What are Bashi Bazouks? C. L. F.

A. They are Turkish irregular troops, natives of the pashalics of Asiatic Turkey and possessing the worst reputation of any class of fighting men in the world. They are wild and turbulent and ready to plunder and kill at any time.

Q. Is Newfoundland considered under the same government as the Dominion of Canada? D. G.

A. Newfoundland is not confederated with the Canadian government. It is governed by a governor appointed by the crown and an executive council, also a legislative council not exceeding 24 men, and an elective house or assembly.

Q. What city is called the Mother of the World? O. T. M.

A. Cairo is the city so-called by the Arabs, one of whom describes it as follows: "He who hath not seen Cairo, hath not seen the world; its soil is gold; its Nile is a wonder; its women are like the black-eyed virgins of Paradise; its houses are palaces; and its air is soft—its odor surpassing that of aloes wood and cheering the heart; and how can Cairo be otherwise when it is the Mother of the World?"

Q. When did the Panama revolution take place? M. P.

A. From 1846 to 1903, there were 53 revolutionary outbreaks in Panama. The revolt which achieved the independence of the Republic occurred on November 3, 1903. It was largely the result of the refusal of Colombia to accept the plans of the United States in regard to the construction of the Panama Canal.

Q. How long has it been since the King of England has vetoed a measure? H. R. S.

A. In England, the veto is a remnant of the more extensive power formerly exercised by the King, but which has gradually been cut down until only the negative power of disapproval is left. Since 1708, the right has never been exercised. Non-use, however, does not imply that the power does not exist at the present time, although the system of responsible cabinet government makes its use out of place.

Q. What was the estimated number of men in the armies of Austria Hungary and Germany when United States entered the World War? A. D. D.

A. On January 1, 1917, the estimated number of men under arms in Austria Hungary was 3,000,000; in Germany, 7,000,000.

Q. Explain how the British Cabinet is formed. M. F. R.

A. A political leader of the dominant party is invited by the King to visit him and is requested by him to form a ministry or cabinet. The leader so selected invites members of either House, usually of his own political faction, to become members of the cabinet, or as the phrase is Ministers with Portfolios. He reports these selections to the King and enters upon the legislative duties according to law. It is customary shortly after the formation of a new cabinet for an election to take place at which the people will register their approval or disapproval of the selections or policies.

Q. How does Holland rank in colonial possessions? C. P. H.

A. In point of population Holland has the second largest colonial empire.

Q. Is La Paz, Bolivia, high enough for people to suffer from the altitude? A. J.

A. La Paz, the highest capital in the world, is 12,700 feet above sea level. Strangers are advised to stop over at Arequipa or other halfway points before entering the altitude of the Bolivian highlands. Even so, it is a matter of weeks or months before much physical exertion should be made.

Q. What city of Norway had its name changed to Oslo and why was it done? W. N.

A. The capital of Norway, Christiania, was changed to Oslo. The city was founded by King Harold III, 900 years ago, and named Oslo. Six hundred years later the city was destroyed and a new one founded by King Christian which was then called Christiania. The decision to resume the ancient name was made by the Storthing, the Norwegian Parliament.

Q. Why are Ambassadors to Great Britain called Ambassadors to the Court of St. James? A. G.

A. The Court of St. James's, more commonly though less correctly, the Court of St. James, is the usual designation of the British court so-called from the old palace of St. James which was long used for royal receptions, levees and drawing rooms.

Q. What town is sometimes referred to as the Gibraltar of America? L. O.

A. Quebec is so designated on account of its strategic position.

Q. What is the title of the ruler of Danzig? H. E. N.

A. This is known as a Free City and the ruler is the High Commissioner.

Q. Recently I came across an allusion to the Parliament of Dunces. Can you enlighten me in regard to this? G. B. E.

A. In 1404 at Coventry, England, a parliament convened by Henry IV was known variously as the Parliament of Dunces, the Unlearned Parliament, and the Lack-learning Parliament. All lawyers were excluded, and the name was applied in derision, probably by lawyers.

Q. Is the new government of Ireland like that of Canada? W. T. O.

A. The new government of Ireland is modeled along very similar lines to that of Canada and Australia. The first law to be passed by an Irish Parliament in 123 years was passed in 1923.

Q. What damages were collected for the killing of Consul Imbrie? N. V. W.

A. The Persian Government paid Mrs. Robert W. Imbrie $60,000 as reparation for the assassination of her husband.

Q. What was the first vessel in the British navy? H. F.

A. The first war vessel of the British navy was the Great Harry, a three masted vessel built in 1509 at a cost of $72,414, the first double decker to be built in England.

Q. What is a government called that is run by women? H. C.

A. The technical term applied to a government by women is gynarchy.

Q. How tall were the Prussian guards in the days of the former Kaiser? A. T. F.

A. In their stockings, these guards stood seven feet.

Q. Where was the ancient city of Troy? F. H. F.

A. It is supposed that the modern town of Hisearlik, Turkey, in Asia, is the site of Ilium, known as Troy.

Q. Can the President of Switzerland be re-elected to the office? W. M. C.

A. The President of the Swiss Republic is elected for one year, and is not re-eligible to the same office until after the expiration of another year.

Q. Why does the German Republic hold its elections on Sunday? A. E. M.

A. Sunday has been selected for elections merely for purposes of convenience, as the country is largely industrial and it is difficult for persons employed during the week to obtain the necessary time to vote. In the recent election about 80 per cent of the qualified voting population went to the polls.

Q. What is the story of the diplomat who danced with a Spanish queen and vowed never to dance with any other woman? E. A.

A. During the reign of Henry IV and Queen Joanna, the young queen condescended to dance with the French ambassador. In commemoration of so distinguished an honor he made the vow.

Q. If the chauffeur of one of the foreign ambassadors were arrested for speeding by a local constable, would he be subject to American law? G. D.

A. He would not be subject to American law since the privileges and immunities of an Ambassador extend to the members of his own and of his official household, including servants.

Q. How much of Asia is controlled by outside countries? F. G. W.

A. Asia's area is about 17,000,000 square miles. Of this, approximately 10,000,000 square miles are under the control of Russia, Great Britain, Holland, France, and the United States.

Q. What countries of the world are neutral? W. S.

A. The countries that were perpetually neutral are Switzerland, Belgium, Luxemburg, and the Congo Free State. The neutrality of Belgium and Luxemburg was violated at the beginning of the World War. The countries that remained neutral during the war were Norway, Sweden, Denmark, Netherlands, Switzerland and Spain.

Q. Has Jerusalem ever had any other name? O. P. R.

A. When the Roman Emperor Hadrian rebuilt Jerusalem after its destruction in 70 A. D., he changed its name to AElia Capitolina and forbade any Jew to dwell in this city.

Q. Are surnames used in Sweden? C. F. W.

A. They are not universally used in Sweden. Comparatively few peasants have surnames. The children take the father's Christian name in addition to their own.

Q. What members make up an embassy staff? T. S. Z.

A. In the case of Embassies such as that to the Court of St. James, the staff includes the Counsellor, First and Second Secretary, and in this instance a Third Secretary, and Assistant Commercial Attache; Military Attache and Assistant Military Attaches; Naval Attache and Assistant Naval Attaches.

Q. When did Egypt become an independent state with Fuad as King? L. D.

A. It became an independent kingdom upon the termination of the British protectorate, February 28, 1922. The British Government reserved to its discretion four subjects: safety of the British Empire's communications; defense of Egypt against foreign aggression, direct or indirect; protection of foreign interests in Egypt, and of minorities; and guarantees for British interests in the Soudan. Fuad I was proclaimed King on March 16, 1922.

XXIX

FORESTRY

Q. Where is the oldest tree in the world? L. C. D.

A. The oldest known tree in the world, according to the Missouri Botanical Bulletin, is a bald cypress growing in Santa Maria del Tula, Mexico. It is about 125 feet in circumference and from 4000 to 6000 years old.

Q. How many kinds of trees are there in the United States? H. L. F.

A. There are about 1125 species in this country.

Q. How long do trees live? F. G. A.

A. The Bureau of Forestry says that the average age of trees is between 200 and 300 years.

Q. Is there a tree that has more than one trunk? G. R.

A. The East Indian banyan tree is distinguished by the fact that roots descend from its branches and become auxiliary trunks, thus permitting the tree to extend over a wide area. In the Calcutta botanical garden there is such a tree over 100 years old, that has at least 3000 small trunks, 230 that vary from two to three and a half feet in diameter, and a main trunk 13 feet in diameter. Among these trunks, it is said, 7000 people can stand.

Q. What becomes of the part of a tree that decays and makes a tree hollow? A. R. McC.

A. The Forest Service says that the rotten wood inside a hollow tree decays and disintegrates and goes to the bottom of the trunk of the tree, eventually going into the soil.

Q. Were the sequoia trees of California named for some Indian, and if so who was he? L. W. I.

A. The trees were named in honor of Sequoia who was the son of a white man and a Cherokee woman of mixed blood. Sequoia is famous as the inventor of the Cherokee alphabet. He was born in Tennessee, about 1760 and grew up with the Indian tribe.

Q. Are lightning rods ever put on trees? L. R. P.

A. Valuable trees are sometimes rodded. No trees are immune from lightning but a tall oak is the most susceptible.

Q. Is there any treatment which will waterproof wood? W. W.

A. The Forest Products Laboratory knows of no treatment which will absolutely waterproof wood. Thorough treatment with coal-tar creosote will reduce the tendency to change moisture content to some extent but will not prevent such changes. As a measure to prevent decay waterproofing is not necessary and thorough treatment with coal-tar creosote will be satisfactory.

Q. What kinds of wood are used for handles of tea kettles and coffee pots? J. P. T.

A. Beech, birch, maple, and sap and red gum are reported as being used in largest quantities for these purposes. It should be possible,

however, to use other hardwoods and softwoods, which do not contain too much resin.

Q. When do the cherry trees in Washington bloom? T. L. J.

A. The single flowering varieties of the cherry trees, which are planted mostly around the Tidal Basin and West Potomac Park begin to bloom usually about the first of April and last about ten days. The double flowering varieties, which are planted mostly in the East Potomac Park, begin to bloom about the middle of April and last about ten days. If the weather is very warm and there is an early Spring they come out earlier.

Q. What trees will make good shade but do not have large roots? I. D.

A. The Bureau of Plant Industry says that healthy trees must have a good root system. The roots of some trees grow deep, while others are likely to appear on the surface. Among the deep-rooted trees are the oak and tulip. Among the surface trees are the poplar, silver maple, and walnut.

Q. What is the wood of catalpas used for? M. O. C.

A. Catalpa wood is a hard wood and is used principally for fence posts as it is very durable. In a test report of catalpa an untreated post lasts for 17 years and a creosoted post lasts for 28 years.

Q. What kind of wood is used in making pipes for smoking? C. O.

A. The imported pipes are made of French briar and Italian briar while the domestic ones are usually made of apple and cherry.

Q. Please give the history of the section of a redwood tree which stands in the grounds of the Department of Agriculture, Washington, D. C. J. G. B.

A. The Department of Agriculture says that this section of a tree was sent here from the World's Columbian Exposition in 1893. This tree was originally 300 feet high, and stood on the boundary line between Fresno and Tulare Counties, California.

Q. What is a bottle-tree? D. D.

A. This name is applied to trees having trunks resembling bottles. The Australian bottle-tree is the most common. It has a short bottlelike trunk and dense foliage. Natives utilize the tree by making nets of the fibers and by using the sap in the stem as a drink.

Q. What sort of pine needles should be used in making pillows and when should they be gathered? C. E. D.

A. Pine needles are not generally used in making pillows. While the pillows are called pine pillows, the needles are generally those of the balsam fir, or spruce—either red, white, or black spruce. No special time of the year is specified for gathering these needles, since they are evergreens.

Q. Why do leaves turn red and yellow in the autumn and then drop off the trees? K. S.

A. The brilliant colors of dying leaves in autumn are due partly to chemical changes in the decaying chlorophyll and partly to the exposure of pigment cells previously concealed by an abundance of chlorophyll or other feature of vital activity. The leaves drop because they no longer receive nourishment from the stem or twig.

Q. Will a tree show a mark that is supposed to have been cut on it 50 years ago? D. O. W.

A. The blazes which are put in trees never grow out provided that the blaze is put in properly. One of the members of the Forest Service cites an instance of a blaze that was made in 1861 and states that it is possible to stand 15 feet from this blaze and distinguish it clearly.

Q. Are any trees taller than the 320 foot redwoods found? W. P.

A. The eucalyptus tree of Australia is a competitor of the redwood and occasionally specimens are found a little higher than the redwoods.

Q. What is the difference between trees and shrubs? D. K.

A. Trees have single stems or trunks which branch out at some distance from the ground, while shrubs often have several stems and are of lower growth and bushy habit.

Q. Is the tree still standing under which William Penn addressed the Indians on the peace pipe treaty? P. O. S.

A. The Old Treaty Elm under which Penn is said to have made his treaty with the Indians is no longer standing, but there are a number of young elms in the park where it used to be, which are supposed to be descendants of this famous old tree.

Q. What causes birdseyes in maple? F. R. R.

A. Parasitic growths get into the wood of the maple and cause swellings which appear as eyes when the wood is sawed across. These do not harm the wood but make it more valuable.

Q. Can one grow pines by planting cones? D. J. M.

A. It might be possible to start a pine in this way, but not practical. Usually a cone after being buried becomes damp and closes in such a way that the seeds cannot sprout. Cones should be dried in the sun, the seeds shaken out and planted.

Q. How should pine be trimmed to form a hedge? M. E. G.

A. In trimming the main thing is to cut out the terminal bud, as this will widen the tree. A three foot tree will give a five foot hedge. Trim twice a year.

Q. Is it true that the leaves of the willow tree did not droop until after the crucifixion of Jesus? J. D.

A. The legend of the drooping of the leaves of the willow tree according to tradition is that the handle of the spear used to pierce the side of Christ was composed of the wood of the willow tree.

Q. Will timber decay if it is kept submerged in water? W. V.

A. If the wood is completely submerged in water and kept so at all times it will not decay. Even species of low durability will resist decay forever under such conditions. In salt water, of course, the timber will be destroyed by certain marine animals which riddle it with holes but it is presumed your question refers to decay only and to fresh water.

Q. On what tree does mistletoe grow? M. W.

A. Apple, thorn, maple, poplar, locust, linden and occasionally oak, will furnish a home for the mistletoe parasite.

Q. What causes knots in boards? D. R. H.

A. They are the result of branches which extend from the center of the tree to the outside. After a branch has died and a cambium of living wood grows over the old piece of branch, a knot forms. All trees have abundant knots, but some clean themselves of their lower branches through rapid decay. When trees free themselves from branches readily and growth is rapid, a good amount of clear lumber is formed.

Q. What is the wood best adapted for shipbuilding? F. T.

A. Teak has long been known as the best shipbuilding timber in the world.

Q. What woods are sold under the name of mahogany? W. M.

A. Over 60 different species of

timber have been put on the market as mahogany. The woods now commonly sold under the name are true mahogany from tropical America, African mahogany and Philippine mahogany. Birch and red gum are usually acknowledged as imitations of the wood, although they are sometimes used in furniture sold as genuine mahogany.

Q. Why is cactus wood full of holes? F. E. W.

A. Authorities do not agree as to why holes are found in cactus wood; however, a scientist gives the following explanation which is generally accepted: cactus can not afford to have solid wood because there is not enough fertility and rainwater in the soil to provide for it. Therefore, it is an economy of nature.

Q. How long will the Japanese cherry trees in Potomac Park, Washington, D. C., live? J. H. S.

A. The Office of Public Buildings and Grounds says that the expectation of life for these trees is about 50 years.

Q. What country is most thickly forested? F. T. M.

A. Finland is the most thickly forested country in the world. Of her total surface 61.5 per cent is covered with dense forests and a further 30 per cent consists of sparsely wooded marshes.

Q. In what season of the year should logs be creosoted? H. B. I.

A. It may be done at any time provided the logs have been properly seasoned. Green timber can not be creosoted successfully.

Q. Does the cutting down of trees affect crops? H. S.

A. Cutting down trees has a decided effect on climate and soil fertility. It is an established fact that forests tend to prevent extremes of temperature, either hot or cold, and thus moderate climate. They also prevent the washing away of soil, retard and often prevent floods and thus make cultivation of much land possible, land which without trees would be arid waste.

Q. What is the average age of the trees cut for Christmas trees? S. T. A.

A. They are usually from five to ten years old. A tree six feet tall is about five years old.

Q. Can holly be used for a hedge? B. L. A.

A. It is often used, as it bears clipping well.

Q. Where are the four largest redwood trees in the world? M. E. H.

A. They are all in California. Three are in the Sequoia National Park. Of these, the General Sherman has a height of 279.9 feet and greatest diameter of 36.5 feet; the Abraham Lincoln, a height of 270 feet and diameter of 31 feet; and the California tree, a height of 260 feet and diameter of 30 feet. The General Grant tree in the General Grant National Park adjoins the Sequoia, has a height of 264 feet and a diameter of 35 feet.

Q. How is wood treated to make it bend and what is the best kind of wood to use? C. M. C.

A. Hickory, ash and oak are the most reliable woods to be used for bending purposes. They are treated by steam under pressure.

Q. Is the Forest Products Laboratory at Madison, Wisconsin, a part of the University of Wisconsin? What are the objects of the Laboratory? L. P.

A. The Forest Products Laboratory is a unit of the United States Forest Service, though, of course, it works in cooperation with Wisconsin University. The aim of the Laboratory is to render practical assistance to the manufacturers and users of wood and wood products and at the same time to pro-

mote forest conservation and the practice of forestry.

Q. What country has the most valuable trees? C. E. L.

A. South America has the most valuable species, Siberia has the greatest number of trees, while the United States has the most timber actually available. Germany has the most forest land under intensive forestry management.

Q. What trees are peculiar to North America? C. F. P.

A. The following are some of the most important trees that are found in their native state only in North America; hickory; ball cypress; sequoia (both species); locust (all species); yellow poplar; Arizona cypress; white pine, western yellow pine; and Douglas fir.

Q. Where is the largest stand of white pine in the United States? J. G. F.

A. The largest tract of standing white pine is in Michigan. It is virgin timber.

Q. Have leaves a starch content? D. R.

A. Leaves are often found to contain starch especially at the end of a long period of bright illumination. They seldom contain starch in the morning or on cloudy days.

Q. Does the Forest Service put camp grounds in the National forests? R. C.

A. It has developed or helped to develop about 500 public camp grounds in the National parks.

Q. What kind of tree produces cork? A. M. J.

A. This material is the bark of the cork oak (Quercus suber.) All bark is partially made up of cork, but in cork oak this tissue attains unusual thickness. Cork is composed of walls of dead cells filled with air, rendering it very light, the specific gravity being only 0.24. It is elastic, tough and impervious which renders it useful for stoppers for bottles, floats for nets and life preservers.

Q. Should dead leaves be burned? F. E. M.

A. They should be kept for their humus.

Q. Does the Federal Government allow the public to use the national forests for camping, hunting, and fishing? D. L. C.

A. The use of the national forests by the public is encouraged by the Government. Certain regulations, however, must be observed. These deal almost entirely with precautions against fire.

Q. What is the proper time of year to attempt tree surgery? M. A.

A. As a general rule, tree surgery can be undertaken at almost any time of the year when sap is not running too actively and the weather is not cold enough to freeze cement, if this is being used. In most trees the sap will interfere with the work only while the buds and leaves are expanding in the spring. Cement work will be ruined if it is frozen before it is set. It is not likely to be injured by frost after setting for a few days.

Q. What is the best kind of wood for fuel? C. W. B.

A. Shellbark hickory ranks first in fuel value, with chestnut white oak, white oak, white ash and red oak following in the order named.

Q. From what part of the tree is figured walnut made? I. H.

A. In the average tree the only place where a decided figure is found is in the stump. Figured walnut is also made from large growths, known as burls, which may be found occasionally on the trees. All these pieces of wood are used as veneers.

Q. Will a round ball of wood float half out of the water? W. T. C.

A. A floating body displaces an amount of water equal in weight to its own weight. If the ball weighs exactly half as much as its corresponding volume of water it would float half-submerged.

Q. What happens that makes a log water-logged? A. M. P.

A. The minute cavities of the wood have been burst in by the great pressure and have filled with water.

Q. What will prevent the splitting of hardwoods while seasoning? L. T. S.

A. In air seasoning, the checking and splitting may be minimized by protecting the woods from the sun and rain, and by coating the ends of the pieces with paraffine. In kiln drying, the same defects may be prevented by proper control of the temperatures, humidities, and circulation in the kiln.

Q. What wood is used for telephone poles? J. L. W.

A. Chestnut is most commonly used; next come northern white cedar; southern white cedar, and western red cedar.

Q. What is wood wool? G. G.

A. Excelsior is graded according to the thickness and width of the strand, the kind and color of the wood. The thinnest grades are often called wood wool and bring the highest prices on the market if they bear other necessary qualifications. The finished product is baled in a power press such as is used for baling hay and reaches the market in this form. The best grades of excelsior are made from basswood, but on account of its scarcity it is not the leading wood in the industry.

Q. Where was scientific forestry first practiced? W. J. C.

A. The Pisgah National Forest and Game Preserve was originally the property of the late George W. Vanderbilt, who first introduced the practice of scientific forestry there. The first School of Forestry in the United States was also established there.

Q. Is ebony always black? D. K. W.

A. The ebony of Ceylon is black, but the variety found in Jamaica is green.

Q. What is the hardest wood found in the United States? H. F. B.

A. It is black iron wood which grows in the State of Florida. The scientific name for this wood is Rhannidium Ferreun.

Q. What kind of wood is rosewood? R. H. J.

A. Rosewood is the common name of the wood of several trees valued for beauty and used for ornamental furniture. The principal species is thought to be a Brazilian Mimosa. When being sawed or cut it yields an agreeable smell of roses, hence its name.

Q. Does the wood for baseball bats have to be seasoned before it is used? F. L. W.

A. The wood should be seasoned because it shrinks during drying and a bat made of green wood would be decidedly oval when dry. It is usually best to dry the wood either in the square or in the rough-turned condition. Seasoned wood is more than twice as strong and stiff as green wood, and the weight has decreased materially.

Q. How is oak treated to produce the fumed oak finish? D. T. H.

A. Fumed oak is wood that has been darkened by the fumes from liquid ammonia. The ammonia does not touch the oak, but the gas that comes from it acts in such a manner upon the tannic acid in the wood that it is browned so deeply

that a shaving or two may be taken off without removing the color.

Q. Does the English walnut come from England? M. W.

A. The nut known as the English walnut is the fruit of the Persian or Circassian walnut tree. The name English walnut is applied to it in the United States. While the tree is a native of Persia and the Himalayas, it is cultivated in many countries, particularly in southern Europe and in California.

Q. Do trees shed their bark? C. B.

A. Smooth bark trees such as the birch shed the annual growth of bark, while rough bark trees, such as the oak, retain the annual growth persistently.

Q. What wood weighs the least? E. H. M.

A. Balsa is the lightest known wood. It is found in commercial quantities in Cuba, parts of Porto Rico, Jamaica, Trinidad and along the east coast of Central America, where it is confined very largely to the mangrove swamps and to other inaccessible swampy places. Exploiters often experience the greatest difficulty in getting the logs out of these swamps.

Q. What kind of wood is best for bows and arrows? H. D. L.

A. Hickory and yew are used for making bows, while ash and oak are used for making arrows.

Q. What kind of wood is used for cigar boxes? R. T. S.

A. The following woods are used for cigar boxes: tupelo gum, redwood, basswood, yellow poplar, Spanish cedar, sap gum, and red gum. These species are listed in the order of quantity used. For many years the best cigar boxes were made from Spanish cedar. However, within the past few years a number of these other woods have been substituted for Spanish cedar.

Q. What kind of timber is it which grows in the Philippines and is used as a substitute for mahogany? L. C. H.

A. The red lauans of the Philippine Islands are used in Europe and America as substitutes for mahogany. The wood is not so hard and durable as mahogany, but it has a beautiful grain and permits of a fine polish.

Q. Why is some wood fine grained and other wood coarse grained? V. R. T.

A. The grain in wood depends upon the width and density of the rings formed in the growth of the tree. Where the rings are wide the wood is coarse grained, where narrow, the wood is fine grained. Fine grained woods ordinarily are capable of taking a high polish.

Q. Are cedar chests effectual as a protection from moths for wool garments? A. C.

A. Chests made of heartwood of red cedar, if in good condition as regards tightness, will prevent damage from moths if clothing is beaten, brushed, and sunned before being placed in the chest. The odor of red cedar will not destroy adult moths or millers nor the eggs, but it will kill the young larvae or worms.

Q. Why were the cedars of Lebanon remarkabe enough to find a place in literature? O. R. P.

A. The cedars of Lebanon were the tallest trees known in Biblical times and references to them were on account of their height and strength.

Q. To whom does Cook Forest in Pennsylvania belong? C. M. S.

A. Cook Forest is a State forest and is said to have one of the largest stands of virgin white pine. This forest is fifty to one hundred acres and is approximately 150 years old.

Q. Why will a girdled tree ultimately die? W. W. G.

A. Girdled trees die because the inner bark or cambial layer and living sapwood is severed. Vital connection is thus cut off between the roots, which take up water and raw food material, and the leaves, which transform water and raw material into elaborated plant food.

Q. What species are the trees in Yellowstone National Park? C. M. E.

A. Five-sixths of the area of the Yellowstone National Park is forested, the trees being largely coniferous. Approximately three-fourths of the forests consist of ledge-pole pines. Other trees are white pine, Englemann spruce, silver fir, cedar, and cottonwood; the quaking aspen grows in all parts of the Park, furnishing food for elk, deer and beaver.

Q. What acid do you put on a tree stump to bring out the rings so they can be counted? L. L. B.

A. The Forest Service says that it has not heard of the use of acid for the purpose of calculating the age rings of a tree; however, by taking sandpaper and sandpapering the stump thoroughly to a smooth surface and using a magnifying glass you can see the age rings clearly enough to determine the age of the tree.

Q. Is the deadly upas tree as deadly as fiction writers assert? O. R. W.

A. The upas tree, Javanese, is celebrated for its poisonous qualities, but they have been greatly exaggerated. A deadly poison is made from its sap which hardens into a gum, and when the tree is felled or its bark is much injured it gives out noxious exhalations which will cause cutaneous eruptions. If the tree be burned the smoke from it will produce a similar effect.

Q. Why is it that mistletoe grows only on the highest branches of trees? M. L. M.

A. Mistletoe requires a great deal of sunlight. For this reason in bottom-land forests of the East mistletoe is confined to the highest branches of the tallest trees, but in the intensity of sunlight in the Southwest, mistletoe spreads over the entire tree.

Q. What is laminated wood? E. B.

A. Laminated wood is a block composed of thin sheets of wood glued together. It may be used in the same way as clear timber. This is a process developed by the Forest Products Laboratory in Madison, Wisconsin, as a conservation measure.

Q. Does the cedar of Lebanon grow in this country? W. S.

A. It is hardy in the United States only in the South and in California. England has some noble specimens that were planted there in the 17th century.

Q. Will a tall tree near a house interfere with the draft of a chimney? P. N. A.

A. The Forest Service says that a tree which grows close to a chimney in most instances interferes with the draught of the chimney. It may be necessary to cut the tree down or build the chimney higher.

Q. What does the name of the banyan tree mean? N. S.

A. It was so called in allusion to the use of the space sheltered by the tree as a market place by the banians. Banians are a caste of Hindu merchants or traders who abstain from eating meat.

Q. What trees do we have in this country that are not found in Europe? J. W. C.

A. The hickories, sequoias, magnolias, and sassafrasses, so abundant in America, are found only in fossil form in the Old World.

XXX

FRUIT

Q. What is the per capita consumption of apples in the United States? C. R. M.

A. It is about half an apple a day for every man, woman, and child in the country.

Q. Is there any fruit tree that will produce two crops in one season? R. E. A.

A. The fig tree is distinguished from almost all others by the extraordinary property of producing two crops of fruit in the same year on distinct shoots, in climates congenial to its growth.

Q. Where did the name cantaloupe come from? S. C. C.

A. Cantaloupes are so named from Cantaloupe, Italy, where the melons were first grown in Europe.

Q. Which of the tropical fruits attains the greatest size? G. S.

A. The jack fruit is probably the largest. Some specimens are said to weigh 80 pounds and be two feet in length.

Q. What is the new fruit that is a cross between a peach and some nut? C. C. H.

A. The peachmond is a new fruit reported from Mexico as a hybrid between the peach and almond.

Q. Do Englishmen eat as much fruit as Americans do? E. B. B.

A. Americans consume a great deal of fruit while England is a low per capita fruit-consuming country. There is now an Eat More Fruit campaign under way in England.

Q. About how many oranges and grapefruit does the average person eat in a year? G. O. C.

A. It is estimated that each person in the United States eats on an average 58 oranges, 5 grapefruit, and 16 lemons. This is twice as much of these citrus fruits as were consumed five years ago.

Q. Are alligator pears grown in the United States? G. A. L.

A. Their culture is a thriving industry in southern California and Florida. It takes from six to eight years for an avocado plant to bear fruit. The flavor depends upon the variety. The variety grown in the United States is very good and compares favorably in flavor with the imported fruit.

Q. What kind of a fruit is the jujube? W. K. D.

A. It is a small drupe, elliptic or oblong to spherical in form, from 1-2 to 2 inches in length, with a thin dark brown skin, and whitish flesh of crisp or mealy texture and sweet flavor, having a hard two-celled stone in the center.

Q. In what states are cranberries grown? K. L. U.

A. The bulk of the cranberry crop is grown on the acid soils and peat bogs of Massachusetts, parts of New Jersey and New York, Wisconsin, Michigan, Washington and Oregon. The mountain districts of Virginia and West Virginia yield some cranberries.

Q. Which of the fruit trees grows the fastest? M. R. E.

A. The apple tree grows most rapidly. The peach and plum trees, however, fruit first.

Q. Is there any difference between huckleberries and blueberries? S. D. M.

A. In New England the distinction is very clearly drawn. The huckleberry is restricted to plants of the genus Gaylussacia, and contain large brittle seeds. The blueberry is applied to species of the genus Vaccinium in which the seeds, though numerous, are so small that they are not noticeable when the berries are eaten. The latter is superior from a market standpoint.

Q. Is there any difference between a dewberry and a blackberry? C. G.

A. Recent investigations indicate that all the principal varieties of dewberries are in reality hybrids of blackberries. Dewberries ripen earlier than blackberries and the canes trail upon the ground instead of growing erect as do those of the true blackberry.

Q. Why is the cranberry so-called? H. W.

A. Cranberry was originally crane-berry. The fruit is borne on curved stalks which suggest the neck of a crane.

Q. Is grapefruit more akin to oranges or to lemons? B. D.

A. All three belong to the citrus family, but the grapefruit more nearly approaches the orange in amount of sugar and citric acid it contains than the lemon.

Q. What is the difference between a prune and a plum? J. N.

A. A prune is simply a plum which dries sweet without removing the pit. In most varieties of plums there occurs a fermentation around the pit in the process of drying. Varieties of plums or prunes that dry without fermentation are: California Bene, Agen, Clyman, Diamond, Golden Drop, Giant, Imperial, Epinense, Pond, Sugar, Tragedy, and Yellow Egg.

Q. I've heard that there is a cooking banana different from the ordinary eating banana. Is this true? H. L.

A. The cooking banana is similar in appearance to the ordinary eating banana, but usually is larger and has a more pronounced stem. Cooking bananas are sold on the market by the "hand." The cooking banana is not edible raw. When the skin has turned black, the whole banana (skin and meat) should be baked for 30 minutes. To serve, split the skin with a fork and season the fruit with a little lemon juice and butter.

Q. Which States produce the most apples? F. W.

A. New York was the leading apple State in production in 1925 producing 13.3 per cent of the crop, Washington was second with 12.8 per cent, Virginia third with 8.5 per cent, Ohio fourth with 4.6 per cent, California fifth with 4.1 per cent. These five States produced 43 per cent of the entire apple crop of this country.

Q. Why doesn't all the fruit on a tree ripen at the same time? H. H. D.

A. The Department of Agriculture says that there are several reasons why all the fruit of a tree does not ripen at the same time. In some instances this will be a characteristic of certain varieties. The exposure to the sun is another factor, fruits being directly exposed, ripening first. There is also some difference in the fruit where the fruit is grown in clusters. It is interesting to note that the center one will ripen in advance of the others. This is because it is fertilized with pollen before the others are.

Q. Why has the fashion in winter apples swung from Russets and Greenings to such varieties as McIntosh, Cortland, Delicious, and Starking? A. N.

A. Cold storage makes it possible to keep these more perishable varieties through the winter. However, Baldwin and Greening still hold their own in spite of the trend to newer varieties.

Q. What fruits have small acid content? N. H.

A. Among them are melons, bananas, currants, blackberries, and pears.

Q. How long have grapes been used for making wine? P. O.

A. The cultivation of the grape and the making of wine are of the most remote antiquity as appears from the Scripture history of Noah and other Bible characters and from many passages of the most ancient authors. The grape was probably introduced into the South of France and into Italy by the Phoenicians about 600 B. C.

Q. When a storm has blown down a fruit tree in March, can it be put back in the ground? J. M.

A. The Bureau of Plant Industry says that fruit trees may be raised, after a storm has blown them down, if they are well anchored and if the soil is well packed around the roots.

Q. Where does the guava grow and how is it eaten? O. L. H.

A. The guava grows in tropical America, Mexico and the West Indies and as there are over 100 species, the fruit varies considerably as to color and shape. Propagation is nearly always by seed, but some vegetative method is generally used to perpetuate desirable varieties as the plants do not run true to seed. As a food it is used raw with cream and sugar and also made into shortcakes and pies, but its most common use is for jam, jelly, cheese, and syrup.

Q. How long has the loganberry been grown? J. P. C.

A. It was produced by Judge J. H. Logan of California in 1881.

Q. Does the Mango grow in this country? E. L.

A. The Mango has been cultivated to some extent in southern Florida and California. It has been said that some eight year old trees in Florida have borne as many as 5,000 fruits in a single season.

Q. How large is the orange-growing section of California? H. S.

A. Ninety per cent of the oranges of California are grown in a strip 10 miles wide and 60 miles long at the foot of the Sierra Mountains in the southern part of the State.

Q. Would a period of weather with temperature around 40 when apple trees are in blossom, keep the trees from bearing fruit? J. J. M.

A. At this temperature the pollen would not germinate and the trees would not bear fruit.

Q. Where did Maraschino cherries originate? C. A. N.

A. Maraschino cherries are made from Marasca cherries grown chiefly in Zara, Dalmatia. They are preserved in white honey and clear syrup. This form of preserving has been used in central and southern Europe from very early times.

Q. Is Texas considered a fig-producing State? A. R. T.

A. The fig industry in southeastern Texas is growing rapidly and possibly not more than half of the trees have yet come into bearing. Thousands of acres have been planted during the last two years and several large plantings will be put in this coming winter, according to local reports. This seems to be the crop best adapted to the fertile, level, coastal-plain country of Texas.

Q. What will destroy rust on blackberry vines? B. J. R.

A. Rust is a serious disease and is incurable. All plants infested with this disease must be dug out and burned.

Q. Why was the name strawberry given to the fruit? V. L. W.

A. The name strawberry is derived from the Anglo-Saxon. The exact application of the word straw to the berry is uncertain. The old Anglo-Saxon word literally means "that which is scattered about," and was oringally applied to the broken stalks of grain after threshing. In connection with the berry, the word may be taken in the sense of a long stem, referring to the runners of the plant or it may allude to an old habit of stringing the berries on a straw.

Q. Are lemons picked before or after ripening? R. T.

A. Lemons are never harvested after they are ripe. They are picked as soon as they have attained a certain size and they are usually as green as the leaves on the tree.

Q. Why should grape vines be trimmed in the fall? A. McG.

A. Grape vines are likely to bleed to excess if trimmed at any time after or immediately before the sap rises.

Q. What are some of the new citrus fruits that have been developed? L. L. B.

A. The tangelo, the limequat and citrange are some of the most promising new fruits. The tangelo is a cross between the tangerine and grapefruit; the limequat, a cross between the lime and kumquat; and the citrange, a hybrid of the sweet orange and trifoliate orange.

Q. Is it necessary to wash dried figs that are imported from Smyrna? J. M. R.

A. One need have no fear about eating Smyrna figs that are sold in this country, as figs can not come into the country unless there is attached to the shipment a certificate o. k.'d by the Consul stating that they are packed under sanitary supervision. Smyrna requires certain sanitary laws in curing and packing their figs. It is not necessary to wash the figs before eating as that would deprive them of their flavor.

Q. What causes peaches to crack? H. M. A.

A. The cracking of the fruit is the result of weather conditions. If there is a continued dry spell followed by sudden rains, the inside of the fruit grows more rapidly than the outer skin, which therefore splits.

Q. Where did tomatoes come from? W. P.

A. Tomatoes were probably first grown in the 16th century in Peru. They were grown in an ancient time in Mexico but they did not become an economic fruit until about 100 years ago.

Q. Is there any variety of raisins grown that the fruit is without seed? H. K.

A. Seedless raisins are made from four varieties of seedless grapes: Sultanina, Sultana, Black Corinth, and White Corinth. Other seedless or nearly seedless grapes are grown as table grapes and might be used for making seedless raisins but for the superiority of the varieties mentioned.

Q. Why aren't pears grown in greater quantities? D. F.

A. The pear is a delicious fruit and yields enormous crops when bearing. A large acreage would be planted were it not for pear blight. This disease makes a crop so uncertain that farmers will not take the chances. The pear would rival the apple in production and probably outyield this fruit were it possible to control the blight.

Q. Is it necessary to cut grapes from vines with scissors? L. A. R.

A. Grapes should never be pulled from the vine. Such methods injure both fruit and vine. The picker should take hold of the cluster by the stem and cut the stem with a pair of shears and lay the cluster in the tray or basket. Grapes should never be picked when they are wet. Dampness encourages decay, besides spoiling the appearance of the fruit.

Q. Where did the apple grow first? E. B.

A. The apple was probably a native of Central Asia. It was introduced into America from England in 1629 by the Governor of Massachusetts Bay Colony.

Q. Where did Concord grapes get their names? B. M.

A. The man who originated the variety lived in Concord, Mass.

Q. Do the push carts sell an appreciable proportion of the fruits used in a city? N. S. C.

A. It is estimated that in New York City, 11 per cent of all the fruits and vegetables used in that city are retailed through push carts.

Q. How long does it take to make raisins of grapes? H. P. S.

A. The average time necessary for drying and curing a tray of raisins is three weeks, depending on the weather. The earliest picked grapes dry in 10 days, the later ones often taking four weeks or more. In the raisin districts of this country some of the grapes are ripe by the middle of August. The drying season often lasts into November.

Q. What fruits will make vinegar? K. D. W.

A. Apples, grapes, oranges, blackberries, pineapples, watermelons, peaches, figs, and mayhaws, will all make satisfactory vinegar.

Q. Why don't apples grow in Florida? N. O. E.

A. The apple is a fruit which demands a rest period. The warm Florida climate does not permit this.

Q. Are bananas transported in refrigerator cars? E. T.

A. The fruit is carried in refrigerator cars which, in most cases, are equipped with false floors or floor racks, providing air space of four to six inches under the load. During the warm season the cars are iced.

Q. What is the A and M berry? L. I. A.

A. A new berry produced by hybridization of the dewberry and the raspberry, is known as the A and M berry. The plant is a vigorous grower, has large, round, thick leaves, and produces a dark red or crimson berry of unusual size and flavor.

Q. Is it necessary to put apples in storage as soon as they are picked? S. T.

A. The New York State College of Agriculture says that every day lost between the tree and the storage warehouse means a week lost in the possible keeping time of apples.

Q. Are green plums ever used to make olives? L. L. S.

A. Mock olives may be made for home use from unripe plums. A hot brine composed of one pound of salt to one gallon of water is poured over the green plums. Allow it to stand for 36 hours. Then place the fruit in a new brine and boil for one minute. Drain the plums, pack into jars, cover with hot brine. Seal and process pint jars for 30 minutes at 212 degrees F.

Q. What is a loquat like? R. C. H.

A. A loquat is a yellow, generally oval, plum-like fruit, a near

relative to the medlar and sometimes, but incorrectly, called the Japan Plum.

Q. Are Japan quinces poisonous? If not, what can they be used for? D. K. T.

A. The fruit of the Japanese quince tree is not poisonous. Although it has a strong flavor it can be used for making jellies and jams. Best results are secured when it is mixed with apple.

Q. Why are crab-apples so-called? M. L. S.

A. The word crab in the name crab-apple is used in the Middle English sense. It refers to the disagreeable, sour, astringent taste of the apple.

Q. Can the Japanese persimmon be grown in the United States? C. H. K.

A. The Japanese persimmon has been introduced into the United States and grows as far north as Washington, D. C.

Q. What are industrial fruits? T. U. H.

A. Industrial fruits are those products of the soil which are sown and planted and upon reaching maturity are garnered, or harvested, such as grain, vegetables, and other crops, as distinguished from natural fruits, such as trees, grass, etc.

Q. Is grapefruit sold in England? R. H. D.

A. The Department of Commerce says that grapefruit is becoming more and more popular in England, and now can be obtained in almost all English cities.

Q. Are bananas grown from seeds or sprouts? R. E.

A. The species grown for fibre and for ornament usually produce seed and are propagated by planting seeds. The edible banana of commerce has a perennial root from which the plant is perpetuated by sprouts or suckers.

Q. What should be planted near strawberry beds and orchards to prevent damage by birds? T. T. D.

A. The Russian mulberry may afford protection not only to strawberries and cherries, but to other fruits and vegetables. Rows of these trees, also early June berries and shadberry trees should be planted near the orchard, along roads and between grain fields.

Q. Should pears be left on the tree until ripe? J. A. S.

A. Unlike most other fruits, the pear develops much better quality when ripened off the tree. The larger varieties are usually picked when they attain a diameter of 2¼ to 2½ inches.

Q. Is the greengage a plum? W. S.

A. The greengage is a famous variety of sweet plum. It originated in France, where it is known as Reine Claude, from Claudia, Queen to Francis I. Its English title is after a clergyman named Gage who introduced it to England.

Q. How did nectarines originate? C. E. W.

A. A nectarine is a variety of peach which is distinguished by the smoothness of its skin and its pulpy flesh. The Department of Agriculture says that nectarines are sports from mutation of the peach. They sometimes occur on a single branch and specimens have been seen one-half of which are peach and the other half nectarine. Nectarines occur chiefly in California and Oregon.

Q. Where do cubeb berries grow and what are they good for? R. M. B.

A. The cubeb is the small aromatic berry of Piper Cubeba, a climbing shrub, native in Java and Borneo, but now cultivated in various tropical countries. The dried unripe fruit is much used in medicine as a stimulant, expectorant, and diuretic. The inhalation of

smoke from burning cubeb has a palliative effect in some affections of the respiratory passages.

Q. Does rain on fruit cause it to spoil? C. C. F.

A. The Department of Agriculture says that the fruit crops usually suffer after a rainy spell because of the fact that rain spreads diseases. The rain which falls on diseased fruit usually carries the germs to the fruit and leaves of the lower branches. Most fungus diseases of fruit trees are promoted by the existence of dampness.

Q. What time of day should strawberries be picked? H. L. F.

A. The best time for picking the fruit is in the morning when the berries are cool. They should be pinched rather than pulled from the plant. Strawberries picked on a rainy day do not keep well.

Q. Why are some cranberries white? G. R. Y.

A. White cranberries are a result of the absence of sun and light on the berry. When cooked the skin remains white but the juice is pink.

Q. Why are the apple and raspberry placed in the same class? B. M. S.

A. The Department of Agriculture says that raspberries and apples are not placed in the same class but botanically they belong to the same family. That is because of the group relationship of the floral organs and some of their botanical characteristics.

Q. Are there any fruits or grains that contain iodine? A. K. B.

A. Bananas, strawberries, grapes, pears, oatmeal, and wheat contain small amounts of iodine. Many vegetables and fish also contain iodine.

Q. To settle an argument, does the banana grow on a tree or plant? F. N.

A. The plant that produces the banana, is not, strictly speaking, a tree. It is a perennial herb that grows to a height of from 10 to 30 feet. The fruit grows upward.

Q. How long can peaches be kept in cold storage? T. H. T.

A. Peaches of good color, yet still hard, if fresh from the tree, have been kept in cold storage for four weeks and found at the conclusion of that period in fairly marketable condition.

Q. Are rhubarb plants raised from seed as good as from divided roots? F. E.

A. Those raised from seed may or may not be as good. When it is necessary to produce a definite variety, the plants are raised from divided roots.

Q. What country did oranges come from? P. K. H.

A. The orange is a native of India or southern China, but has been distributed to all parts of the sub-tropical and warm temperate regions.

Q. When were bananas first imported into America and England? V. H.

A. The first known importation of bananas into the United States was in the late sixties, when they were brought to New Orleans from the Bay Island off Spanish Honduras. In 1870, a few bunches were brought to New York from Colon. Bananas were first imported commercially into England from Madeira in 1878.

Q. How are the green cherries made that we see at soda fountains? M. M.

A. The Bureau of Home Economics says that the green cherries to which you refer are white cherries colored by an artificial dye. Mint flavor is then added.

Q. How many grapes does it take to make a ton of raisins? E. V. R.

A. About 4 tons of grapes having 24% sugar will make 1 ton of raisins, properly cured.

Q. Why do some peaches that have been canned lose the peach flavor? B. A. E.

A. The Canning Trade says that uncontrollable factors may be responsible for some small part of this loss of flavor, but several years of practical experiment and observation of modern canning methods has established the belief that there is but one canning practice responsible for this loss of the true peach flavor, and that is lye peeling.

Q. Do grapes grow in many countries? J. L. F.

A. Native species of the grape are found in nearly all parts of the world.

Q. Are bananas allowed to ripen on the tree for local consumption? T. S. B.

A. The banana reaches its highest perfection in food value and flavor when harvested green and allowed to ripen after being severed from the plant. When consumed locally in the tropics, it is cut green, for if allowed to ripen on the plant it loses its delicious flavor and becomes insipid.

Q. Should varieties of apples be mixed for making cider? P. H. R.

A. Winesap apples are practically the only ones that contain sugar, tannin and acid in such proportion that the cider made from them needs no modification. Usually a blend of several kinds is best, since each contributes a special characteristic which improves the mixture.

Q. How old does a vineyard have to be to yield a ton of raisins an acre? S. D.

A. A good vineyard will produce this amount in its fifth year.

Q. In what country were peaches first grown? O. D. C.

A. The peach is supposed to be a native of China.

Q. How large do watermelons grow? H. C. C.

A. The Department of Agriculture says that watermelons grown in Turkestan along the Tigris River have under special conditions reached the remarkable weight of 275 pounds. In the United States melons weighing over 125 pounds are rare. Last year a record melon was grown near Hope, Arkansas, which weighed 136 pounds. It was shipped to President Coolidge.

Q. What State produces the most cantaloupes? Which State produces the best? L. R. McC.

A. California produces the greatest number of cantaloupes of any State in the Union. Large commercial-producing areas are located in California, Colorado, Arizona, Georgia, North Carolina, Maryland, New Jersey, and Arkansas. If grown under the right conditions, cantaloupes from any one of these States will be of good quality.

Q. Are pineapples grown in the United States? J. T. T.

A. Florida is the only State in which the pineapple is successfully raised for commercial purposes in this country, as the pineapple is close to a tropical fruit. The pineapple is a fruit of the pineapple plant which grows from two to four feet high. The individual plant produces only a single fruit, which varies greatly in size from four to ten inches.

Q. Are dates sugared or put in syrup, or is their sweetness natural? A. A. A.

A. Dates naturally are very sweet, as 70.6 per cent of their chemical analysis is carbohydrate.

Q. Does Florida produce seedless oranges? W. P. B.

A. The Bureau of Plant Industry says that Florida produces very few of this kind of oranges, as it is not adapted to Florida climate.

XXXI

GEOGRAPHY

Q. Where is the shortest distance across the United States? G. E. F.

A. The shortest distance from the Atlantic to the Pacific across the United States is between points near Charleston, South Carolina, and San Diego, California, and is 2,152 miles.

Q. Where is the highest tide in the world? S. L.

A. The highest tide is in the Bay of Fundy, Canada, where there is a rise of fifty-three feet.

Q. What river is the swiftest? C. K.

A. The River Rhone, which is generally regarded as the swiftest river in the world, attains a velocity of nearly 40 miles an hour in certain parts in its course.

Q. Where is the geographical center of the United States? M. C.

A. The geographical center of continental United States, exclusive of Alaska, is in the eastern part of Smith County, Kansas, latitude 39 degrees 50 minutes N., longitude 98 degrees 35 minutes W. Smith County is one of the northern tier of Kansas counties and is about midway between the eastern and western boundaries.

Q. What country has the most volcanoes? C. A.

A. The Central American Republic of Salvador possesses more volcanoes that have been active within historic times than any other country. Nowhere is one out of sight of at least one volcano, and usually several are within range of vision.

Q. What is the area of the Bad Lands? M. A. G.

A. Bad Lands is a name applied to various arid regions of the West. The Big Bad Lands of western South Dakota embrace an area of about 2,000 square miles.

Q. What are the extents of the coast lines of the United States and Alaska? S. M. M.

A. The extent of the tidal shore line of the mainland of continental United States, excluding Alaska, is 7,314 miles; that of the adjoining islands is 5,563 miles; that of the mainland of Alaska is 6,542 miles, and that of the adjoining islands is 8,590 miles.

Q. Is the Pacific coast line of the United States as long as the Atlantic? G. S. T.

A. On the Pacific, our coast line is 1,366 miles; on the Atlantic, 1,888.

Q. Where does the eastern hemisphere leave off and the western hemisphere begin? E. R.

A. The meridian generally used is the 20th west of Greenwich. This division interferes but slightly with land surfaces.

Q. Is there a noticeable tide in the Great Lakes? W. P. C.

A. The Hydrographic Office says there is a barely perceptible tide in the Great Lakes. It is called a seiche and is partly due to atmospheric conditions.

Q. How is the height of a mountain calculated? M. A. W.

A. The height of a mountain may be determined in several ways —by the aneroid barometer or by vertical angles and also by the line of a spirits level. This is known as leveling and is considered the most accurate procedure.

Q. What river in the United States is known as the Dardanelles of the New World? K. F. S.

A. The Detroit River is sometimes referred to by that name.

Q. How many miles of navigable rivers are there in the United States? H. McD.

A. It is estimated that there are on the mainland of the United States about 25,000 miles of navigated rivers, 2,500 miles of canals, many thousands of miles of regularly navigated waters in lakes and bays, and more than 2,500 miles of sounds, bays and bayous.

Q. What river has the greatest amount of commerce? W. W.

A. The tonnage passing through the Detroit River, which connects Lake Erie and Lake Saint Clair, exceeds in volume that passing through any other river in the world.

Q. How many years ago was the Colorado River at the rim of the Grand Canyon? E. T.

A. The Geological Survey says that in geologic terms the period which has elapsed since the Colorado River began to cut the Grand Canyon is not determined very closely and an attempt to put it in years is speculative. It might be as much as ten or fifteen million years.

Q. How many islands are there in the State of Michigan? C. I.

A. Off the shores of the two peninsulas that form Michigan there are about 200 islands within the State boundaries, the largest being Isle Royale in Lake Superior.

Q. Are there definite data concerning the sinking of any island other than Pulu Rakota? T. P.

A. There have been various instances of islands disappearing through volcanic action or through erosion. One of the principal examples of the former is Graham Island (Ferdinandea), in the Mediterranean, which was thrown up a height of 200 feet with a circumference of 3 miles, in 1831. It soon disappeared, however.

Q. Where is the Suwanee River? V. L. McD.

A. It rises in the Okefinokee Swamp in southern Georgia, flows through Florida, emptying into the Gulf of Mexico.

Q. How many islands are there in the Florida Keys? L. B.

A. The Geological Survey says that the exact number of these islands has never been ascertained.

Q. Has there ever been a time when water didn't flow over Niagara Falls? D. V. H.

A. The winter of 1847-48 was so extraordinarily severe in the country that heavy ice formed in Lake Erie. When it was broken up during the latter part of March, the winds swept the ice into the entrance of the Niagara River at Buffalo, where it jammed in a solid mass, completely choking the outlet of Lake Erie, with the result that on March 29, 1848, the falls of Niagara were practically dry.

Q. Who first declared that the world is round? F. H. C.

A. The doctrine of the spherical form of the earth has been erroneously assigned to Thales, but he accepted the older conception that the earth was a disk. The discovery that the earth is round was undoubtedly made by Pythagoras. His theory was accepted and taught by Aristotle, whose arguments are substantially those which we employ today.

Q. What is the average elevation and slope of Europe? A. W. E.

A. More than one-half of the continent of Europe is less than 600 feet above sea level and only one-sixth is over 1,500 feet. The main watershed of the continent runs from southwest to northeast, with a gradual slope towards the north and a steeper one towards the south.

Q. What are considered as the six leading countries of the Far East? J. F. M.

A. The ones usually placed in this category are: Japan, China, Philippines, Dutch East Indies, British Malaya, and British India.

Q. Where is the Roof of the World? E. S.

A. The Pamir Plateau is so known.

Q. Who discovered Mammoth Cave and when? R. D. G.

A. Mammoth Cave was discovered in 1809 by accident. A man Hutchings pursued to its lair a bear which he had wounded. He traced him to the cave.

Q. Why was Death Valley so-called? R. G.

A. Death Valley received its name from the fact that in 1850 a party of gold-seekers with their families made a one-day camp in the valley and less than half of them survived, the remainder being overcome by heat and thirst. A few escaped over the Panamints to the bountiful Californian plains; the others returned to the East. Ten years later a party of prospectors came across the camp with its wagons and chains, yokes, camp equipment and children's toys; even the tracks made in the sand by the little ones could still be traced.

Q. What is the largest non-navigable river in the United States and in the world? T. W. E.

A. The Platte River and its northern fork, which is about 1,250 miles in length, is the longest non-navigable river in the United States and perhaps the longest in the world. The Orange River in South Africa, which is 1,100 miles long, is perhaps the next longest non-navigable river in the world.

Q. What river is the widest? I. C.

A. The Amazon River is the widest in the world. It is between one and two miles wide where it enters Brazil, and gradually increases in breadth to fifty miles at its main mouth. Where it enters the sea the distance across the water from headland to headland is fully one hundred and fifty miles.

Q. Please state the longest distance straight across the United States and straight north and south. C. C. D.

A. The Geological Survey says that the easternmost point of the United States is West Quoddy Head, near Eastport, Maine. The westernmost point is Cape Alva, Washington. From West Quoddy Head due west to the Pacific Ocean the distance is 2,607 miles. The southernmost point of the mainland is Cape Sable, Florida, 49 miles farther south than the most southern point in Texas. From the southernmost point due north to the forty-ninth parallel, the boundary between the United States and Canada, the distance is 1,598 miles.

Q. What is the extreme western point of the United States? K. R. P.

A. Excluding Alaska, the most westerly point of the United States is Cape Alva, in the State of Washington, longitude 124 degrees 45 minutes.

Q. What are the boundaries of the Great American Desert? O. I. P.

A. The boundaries are vague. The outer limits are the Rockies and the continuing ranges in New

Mexico and Texas on the east; the Sierra Nevadas and Cascade ranges on the west. The north and south limits are British Columbia and the Mexican boundary. Only a part of this area is actually arid waste land, comprising approximately 550,000 square miles.

Q. Have glaciers ever been found in volcanoes? H. G. B.

A. After the eruption of Mount Katmai, Alaska, in 1912, a glacier which was blown in two by the force of the eruption formed a part of the crater wall for several years, the intense heat being insufficient to melt the palisade of ice.

Q. What is a dead glacier? A. H. R.

A. It is a stationary or fossil glacier.

Q. What is the size of the crater of Fujiyama? C. B.

A. The volcano of Fujiyama, Japan, is 12,395 feet high and has a crater with an estimated depth of 500 feet, 2½ miles in circumference.

Q. What State has most of the high mountain peaks? G. A. R.

A. Forty-two of the 55 highest peaks in the United States are in Colorado.

Q. Is the North Pole moving south? C. C. H.

A. Careful analysis by the United States Coast and Geodetic Survey seems to indicate that the pole-point is shifting progressively southward toward the continent of North America. The analysis shows a southward drift of the pole amounting to a trifle more than six inches a year. This would amount to less than one mile in ten thousand years and would equal only 95 miles in a million years.

Q. What is the highest mountain pass in the world? D. D.

A. The passes of the Himalaya Mountains are the most elevated in the world. The highest known is Ibi-Gamin Pass into Garhwal, 20,457 feet, and the highest used for traffic is the Parang Pass in Spiti, 18,500 feet above sea level.

Q. Who owns the Sahara Desert? M. S.

A. Three-fifths of the Sahara Desert in Africa is owned by France, the remainder belonging to Spain.

Q. What is meant by the Great Divide? R. S.

A. This is a colloquial term for the Continental Divide. It is an elevated ridge or water-parting in the Rocky Mountain region of the United States which separates the streams tributary to the Pacific ocean from those tributary to the Atlantic. In a more restricted sense, the term applies to a portion of the main divide in the Yellowstone National Park.

Q. On the desert is the temperature much lower at night than in the daytime? R. A. R.

A. The sands of the desert grow cool if not entirely cold. In desert regions the radiation at night is usually very high and, in consequence, temperatures fall during the night hours much below those of the mid-day periods.

Q. How extensive are the Staked Plains and why are they so-called? T. V.

A. Authorities differ concerning the origin of the name Staked Plains. It may be derived from lines of stakes which were set up to guide travelers or from the stalks of the yucca plant which resemble stakes. The Plains cover an area of about 40,000 square miles.

Q. What African town is named for a President of the United States? A. M. P.

A. Monrovia, the capital of Liberia.

Q. Which is the right hand or left hand side of a river? C. M. S.

A. When the shores of a stream are described as right or left hand, going down stream is assumed.

Q. What were the names of the men that Peary took on his final dash to the Pole? L. W.

A. In his narrative of his expedition to the North Pole, Peary states that besides the Negro Henson, he took with him on the final dash four Eskimos named Ooqueah, Ootah, Egingwah, and Seegloo.

Q. Why do volcanoes usually occur along the sea coasts? E. H. L.

A. Volcanoes are found where the earth's crust is of inferior strength. These areas actually are ocean basins or areas bordering them, or the mountains marking or flanking the outlines of continents.

Q. How does Stone Mountain compare in size with other mountains of stone? P. M.

A. Stone Mountain is a massive dome of muscovite granite in De Kalb County, Georgia, and is said to be the largest in the world. It is about 16 miles east of Atlanta. It rises about 700 feet above the comparatively level surrounding country, and its bulk has been estimated as over 7,000,000,000 cubic feet.

Q. How far up on the high mountains is vegetation found? K. K.

A. The British exploration party which attempted the ascent of Mt. Everest in 1922, reported the finding of edelweiss at a height of 20,000 feet.

Q. How does the amount of water stored in lakes compare with that held in the ocean? J. L.

A. Sir John Murray estimates the volume of the lakes in the world at 2,000 cubic miles, and the water of the ocean at 324,000,000 cubic miles.

Q. What cities in the United States have the largest area? W. L. W.

A. Los Angeles, New York City, Chicago, and New Orleans head the list in the order named.

Q. Who owns the land around the North Pole? L. K.

A. Of the northernmost lands, Greenland belongs to Denmark, Spitzbergen flies the Norwegian flag by consent of the Allies, Franz Joseph Land belongs to Siberia, and Grant Land to the United States.

Q. Where is the longest stretch of beach on the Atlantic Coast? C. S. F.

A. The United States Coast and Geodetic Survey says that its records show that the longest stretch of beach on the Atlantic Coast of the United States is that on either side of Cape Canaveral, Florida, extending from Mosquito Lagoon on the north to Fort Pierce Inlet on the south, a distance of 120 statute miles. It should be noted that the lengths of continuous stretches of beach vary from time to time by reason of inlets breaking through the beaches, and it is possible that such a break may have occurred in this section. If so, however, it has no knowledge of it.

Q. Is there a city in the United States below sea level and is the atmospheric pressure greater there? C. H.

A. There are several valleys in California below sea level, in which small towns are located. The town of Mecca in Riverside County is nearly 200 feet below sea level. The atmospheric pressure does increase with the distance below sea level.

Q. Why is it sometimes said that the Mississippi River flows uphill? R. C.

A. The basis for such a statement is the idea that "up" is away from the center of the earth and

"down" is towards it. If these were the only meanings of the words, then it might be said that the Mississippi River flows uphill, for the polar radius of the earth is over 13 miles shorter than the equatorial radius and as the Mississippi River extends over 18 degrees of latitude, its proper proportion of this difference amounts to more than 4 miles, the river's source being that much nearer the center of the earth than its mouth.

Q. How many islands are there in the Hawaiian group? S. H. E.

A. The Hawaiians consist of eight inhabited islands—Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai and Niihau, and several rocky islets.

Q. Were two rivers ever known to flow in one channel? M. C. V.

A. At Khartum, the capital of the Anglo-Egyptian Sudan, the two Niles, the White and the Blue, meet. The water of the one river is of a greenish-gray color, that of the other is clear and blue, except when in flood, when it gains a chocolate brown from its alluvial burden.

Q. How is the length of rivers measured? N. H. C.

A. Usually a river's length is measured by shore surveying. Occasionally it is calculated by a steamboat. Knowing the rate of speed and the time the journey takes, a computation can be made.

Q. Why do the waters of the Saguenay appear black as ink? M. E. R.

A. The waters of the Saguenay River in Canada are blackened by the shadow of treeless cliffs, some of which are over 1,000 feet in height. The precipitancy of the banks continues below as well as above water.

Q. Is it true that any part of the ocean is fresh water? E. V. L.

A. There are several places in the different oceans of the world where fresh water may be found. One of the best known of these places is beyond the coast of Miami, Florida. The cause of this fresh water in the midst of the salt ocean is a spring formed by a subterranean river.

Q. How deep does light penetrate into the ocean? C. O. N.

A. The limit of penetration is somewhere between 600 and 900 fathoms, which is 3,600 to 5,400 feet. The penetration of light rays into the depths of the ocean is measured by a photometer. Some of the light rays are reflected, others penetrate and are gradually absorbed at different depths according to the wave length and to the clearness of the water. The dark rays are absorbed most quickly in the uppermost layers; the light rays penetrate deeper, while the blue rays penetrate deepest of all.

Q. What are the dimensions of icebergs? A. T. H.

A. There are no complete statistics available concerning the size of icebergs. They have been known to be from 200 to 300 feet above the sea level and to have an entire height of from 700 to 1,000 feet. In the Kennedy Channel, Greely followed an iceberg which was estimated to be 15 miles long, over 100 feet thick, and of unknown breadth. The iceberg which destroyed the Titanic was 100 feet above the water and almost a mile long.

Q. How long does it take an iceberg to melt? H. B.

A. Icebergs last for different periods of years, depending upon their size and construction. Icebergs have been known to take as long as 200 years to melt.

Q. Are icebergs formed of salt water? A. R.

A. Icebergs are always fresh water ice.

Q. How high do ocean waves get when there is a storm at sea? M. B.

A. Waves rarely attain a greater height than 50 feet, but they appear to be much higher when seen from a ship. The ship rolls towards the wave, hence the increasing apparent height. Waves frequently reach an enormous size in mid-ocean, and also on rocky coasts. The height of waves is determined by observation and by means of a tide gauge.

Q. What is the temperature of the mid-Atlantic at the surface and at a depth of several miles? W. A. G. P.

A. The Weather Bureau says that the surface temperature at latitude 40° N., and longitude 40° W., varies from about 60° F. in February to some 74° F. in August. At great depths the temperature is constant and not above 35° F. or 36° F.

Q. Is the water at the top or the bottom of the ocean purer? T. P.

A. There is little difference. The water at the bottom contains a little more carbon dioxide.

Q. How salty is the ocean? A. C. W.

A. On an average there are 3½ pounds of salty material to every 100 pounds of sea water. The salinity corresponds with the climate, increasing where the evaporation is great and decreasing with heavy rainfall or little wind.

Q. Who named the Atlantic Ocean? R. E. L.

A. The Atlantic Ocean was first mentioned by that name by Herodotus, the Roman historian. The present form of the name is from the Latin Atlanticum Mare, meaning the Sea of Atlas. In ancient days the name applied only to the sea beyond Mount Atlas in northwestern Africa.

Q. Just what countries are included in Latin America? H. D. F.

A. Latin America distinguishes a group of 20 republics—Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uraguay and Venezuela.

Q. What is the largest island in the world? I. P.

A. If Australia is designated as a continental island, Greenland is the largest of the islands, strictly so-called, with an estimated area of 826,000 square miles. New Guinea ranks next with an area of 303,000 square miles.

Q. Does the Mason and Dixon line extend from Atlantic to the Pacific coast? R. H.

A. It does not. This line merely formed the boundary between the States of Maryland and Pennsylvania. It extended as originally surveyed to a point 244 miles west of the Delaware River.

Q. Is the ocean deeper at its deepest point than the highest mountain is high? S. S.

A. If Mount Everest were placed in the deepest pit of the Pacific, its summit, 5½ miles high, would be submerged more than half a mile.

Q. Why is the ocean blue? J. J. G.

A. Dr. F. B. Kenrick of Toronto is cited as an authority on this subject. He says that water absorbs all the other colors of the spectrum more freely than it does blue, and that hence light reflected by it or transmitted through it carries a preponderance of blue; that water scatters light more freely than air and in this action the blue light of short wave-length again plays a preponderant part, and that, finally, the sky is blue for the same reason that the water is, and that the water gets bluer then by reflecting the sky.

Q. What is the highest volcano in the world? L. D. K.

A. The highest volcanic peak is Sahama in Bolivia, which is 21,000 feet high.

Q. Why is the Sargasso Sea so filled with seaweed? M. M. W.

A. The Sargasso Sea is almost the resting center of the whirl of the ocean currents in the North Atlantic. The seaweed comes from distant shores where it has been wrenched off by the force of the currents. There are four other great weed-hampered areas of little motion beside the Sargasso Sea.

Q. Is the water at the bottom of oceans very cold? A. R.

A. Below 900 fathoms, the water is always within three or four degrees of the freezing point of fresh water. The warmth of the surface water at the equator extends only a few hundred feet.

Q. Why is the water of Niagara Falls green? N. B.

A. In accounting for the color of the water of the Niagara, it is necessary to consider the fact that the waters of this river come directly from the lake in which they have left all sediment they may have held in suspension, and therefore are clear. Authorities are of the opinion that the greenish color of the water is due to the amount of carbonic acid gas that it contains.

Q. What is meant by the terms Upper Lake Region and Lower Lake Region? C. T. B.

A. The Weather Bureau says that the Upper Lake Region comprises the territory surrounding Lake Michigan, Lake Huron and Lake Superior, while the Lower Lake Region is Lake Erie and Lake Ontario.

Q. How long does a tide stay at its peak? V. F.

A. The Coast and Geodetic Survey says that theoretically the tide remains at its highest and lowest peak for only an instant, but as the height of the tide changes very slowly as it approaches and recedes from its highest and lowest points, there may be a period of 20 minutes, more or less, in which the change may be too small to be noticeable. In localities where there is a large range of tide the apparent stand will be shorter than in the localities where the range of tide is small.

Q. How many active volcanoes are there in the United States? D. C. A.

A. Mount Lassen in northern California is the only active volcano in this country. While indications of volcanic energy had been displayed in the hot springs and mud lakes, near its base, Lassen did not become active until 1914. It has caused little damage.

Q. What is the highest spot inhabited by human beings? S. O.

A. The Buddhist cloister of Hanie, Thibet, where the priests live at an altitude of 16,000 feet.

Q. Why is longitude reckoned from Greenwich, England? J. D.

A. The inconvenience of having a fixed meridian in different countries led to an international conference, which was held at Washington from the 1st to the 22nd of October, 1884. Although the representatives of France and Brazil dissented, the conference agreed to recommend the meridian of Greenwich, England, to be used as the reference meridian of the world by astronomers and geographers. The arrangement began on the 1st of January, 1885. Prior to this time many foreign map makers had already accepted the Greenwich meridian as the meridian of reference.

Q. Who determined latitude and longitude? H. D. T.

A. Hipparchus of Nice about 162 B.C. is credited with this, as well as with the discovery, during

astronomical work done in the Island of Rhodes and at Alexandria, of the precession of the equinoxes. He also made a catalogue of 1,080 stars, giving the latitude and longitude of each.

Q. How is dead reckoning ascertained? A. G.

A. Recourse to such reckoning is made when astronomical observations are impossible. It is computed from the following data: latitude and longitude sailed from or last determined; the course or direction sailed—by compass; rate of sailing; and time elapsed.

Q. Who owns Bedloe's Island on which the Statue of Liberty stands? L. S. T.

A. This land was ceded to the United States Government for the purpose of harbor defense and was once occupied by Fort Wood.

Q. Where is the Isle of Lost Ships? C. M. C.

A. Sable Island, off the coast of Newfoundland, is sometimes known as the Isle of Lost Ships. More than two hundred vessels have been reported lost on this island. It is also known as the "Graveyard of the Atlantic."

Q. Do ships travel on the Dead Sea? E. S. V.

A. The Dead Sea has been navigated in the past, although not continually or for commercial purposes. It was navigated by an Irishman named Costigan in 1853; by Molyneau in 1847. An American, Commander Lynch, explored it in 1848. It is related that the sea was navigated by the Knights of St. John during the 12th century.

Q. Where is the largest desert in the world? M. R. L.

A. The Sahara Desert in northern Africa is the largest continuous desert in the world. Its area is estimated to be over 3,500,000 square miles.

Q. How far from New York City is the Gulf Stream? K. L. G.

A. The main current of the Gulf Stream is about 450 miles off the coast of New York. At the beginning of its course, the Gulf Stream can be clearly distinguished from the main body of water by its deeper color, its difference of temperature and its saltness. This distinction, however, is gradually lost at about latitude 40° N.

Q. Where is the southernmost city in the world? G. F. M.

A. Punta Arenas at the extreme end of Patagonia on the Straits of Magellan is the farthest south. During its winter months it has only 2 hours of daylight.

Q. Is there any truth in the idea that the continents of the world are moving? K. C. V.

A. This idea is embodied in the Wegener hypothesis, suggested by Professor Alfred Wegener of Austria in his book, The Origin of Continents and Oceans, published in 1912. This theory is that the continents of the world are drifting, the rate of movement being necessarily very slow, and during recent conferences of scientists it was decided that certain tests, involving radio, were to be made during the winter of 1926-1927.

Q. Is there really a town called Santaclaus? R. H.

A. There is a town by this name in Spencer County, Indiana. In 1920 it had a population of 100.

Q. Has the Dismal Swamp been reclaimed? W. H. L.

A. There are now less than 750 square miles in this swamp which originally covered 2,200 square miles. It lies in southeastern Virginia and northern North Carolina. Originally this tract was covered with bamboo, briers, cypress, white cedar, reeds, and pine. The part that has been cleared and drained is now devoted to agriculture.

XXXII

GEOLOGY

Q. How old is the earth? L. G.

A. The evidence from geology all points toward an age for the earth to be reckoned in millions of years. Physicists and astronomers also estimate the age of the earth in figures of this size.

Q. At what depth can heat sufficient to produce steam be found in the earth? C. R. R.

A. It has been estimated that the temperature of the earth increases at the rate of 1 deg. F. for each 60 feet. Steam can be produced therefore at a depth of 12,720 feet.

Q. When is the recent period in geology supposed to have begun? R. C.

A. It is usually thought of as beginning when man appeared on the globe and includes the present time. It is also referred to as the Human Epoch.

Q. What is the rock that is claimed to give out a sound like a bell when struck, and where is it found? L. B. A.

A. The Geological Survey says the rock which gives out a bell-like sound is a phonolitic volcanic rock, a kind of lava of dense and compact structure. It is effusive and occurs in large areas of the earth.

Q. Have scientists ever determined of what the interior of the earth is made? B. C. D.

A. Recent trend of opinion has been toward the theory that the core of the earth is metallic. The range of reliable observation and deduction, however, does not extend below 10 miles or one-quarter of one per cent of the distance to the centre.

Q. Where was the largest piece of copper ore in the world found? T. H. B.

A. The Smithsonian Institution says that as far as that office has information, the largest mass of copper ore on record was found in 1857 in the Minnesota Mine, Lake Superior region. It measured 45 feet in length, 22 feet at its greatest width, and more than 8 feet in its thickest part. It contained over 90 per cent of pure copper and weighed about 420 tons.

Q. Why is a geyser so called? J. L. L.

A. The name geyser is derived from an Icelandic word signifying "to burst forth with violence." Natural springs of hot water of that kind were first observed in Iceland and since in the United States and New Zealand.

Q. What State produces the best grade oil? J. N. H.

A. The Geological Survey says that northwest New Mexico has several wells producing the highest grade oil obtained in commercial amounts.

Q. Which countries produce the most oil? G. E.

A. The following are 1925 statistics on oil production in order of

rank: United States, 758,000,000 total barrels; Mexico, 115,000,000; Russia, 52,000,000; Persia, 35,000,000; Dutch East Indies, 21,500,000.

Q. Is an oil well big enough for a man to go down inside it? R. M.

A. An oil well that is being dug to any considerable depth usually has a 20-inch casing in the upper part and a small slender man could get down in one of that size.

Q. What is the average daily production of the oil wells in the United States? R. H.

A. The Geological Survey says that the average daily production of an oil well in the United States is approximately seven barrels.

Q. When was the first oil well in the United States brought in? M. L.

A. On August 28, 1859, the first well at Titusville, Pennsylvania, began producing at a depth of 69½ feet. It produced about 400 gallons of oil a day.

Q. Why is common brick red? M. S.

A. Because there is iron in the clay. Ordinary white bricks owe their color to lime. Lime and iron make a cream-colored brick. Brown bricks are due to the presence of magnesia, and yellow bricks to a combination of magnesia and iron.

Q. How is petroleum formed? E. L.

A. The Geological Survey says the organic theory of the origin of petroleum is most generally accepted. Crude petroleum of paraffin base is believed to be formed of vegetable debris and petroleum of asphaltic base is believed to be formed of organic matter containing a large proportion of animal matter. Substantially the same products are obtained from petroleum of either base except asphalt which is obtained from asphaltic petroleum only and paraffin wax which is obtained from paraffinaceous petroleum. Paraffinaceous petroleum contains a larger proportion of kerosene, gasoline and other high gravity products than asphaltic petroleum.

Q. What per cent of the coal in a mine can be taken out? N. O. K.

A. All coal can be extracted if there are no buildings erected on the mine but if there are buildings there pillars must be left; in that case only about 50 per cent can be extracted.

Q. Where does the asphalt come from that is used in pavements? A. S.

A. There are two types of asphalt. One is native asphalt which is found in natural deposits generally in the form of lakes in Bermuda, Venezuela, Trinidad, and other places. The second form of asphalt is known as crude oil which comes from the wells in Texas, Oklahoma, Mexico, and California. This asphaltic oil is distilled into kerosene, gasoline, etc. The residue from this forms a hard substance which is known as asphaltic cement, which is the last form of distillation. This asphaltic cement is used for road construction.

Q. Where does nickel come from? M. E. C.

A. About 85 per cent of the world's nickel supply is taken out in the vicinity of Sudbury, Ontario.

Q. How long is an oil well good for? L. O. B.

A. The Bureau of Mines says that the average life of oil wells depends upon the location. Following are some computations: Bartlesville Field, Oklahoma, 13 to 15 years; Northern Texas and Louisiana, with the exception of those of the Ranger, Towell and Mexia Fields, 15 to 20 years; Southeastern Ohio, 10 to 15 years; San Joa-

quin Valley, California, 20 to 25 years; Appalachian Sections of West Virginia and Pennsylvania, 20 to 25 years. It must be remembered that the average life of an oil well is quite variable. The rate of development is very important; rapid drilling and rapid production will lessen the life, while gradual drilling and gradual production will lengthen the life. New methods of recovery and other things enter into it.

Q. How many wells are producing oil in this country at present? A. E. D.

A. There are about 300,000.

Q. How was coal formed? J. P.

A. Coal is one of the most important economic minerals, and is of vegetable origin. When vegetable matter accumulates under water it undergoes a slow process of decomposition, gradually giving off its nitrogen, hydrogen, oxygen, and some carbon, the result of which process, if carried far enough, is the formation of a mass or carbon. The general theory regarding the formation of coal is that it results from the decomposition under tremendous pressure at a high temperature of vegetation in swamps. The first stage is peat; second, lignite; third, bituminous coal; fourth, anthracite, and the final stage is graphite.

Q. Has a complete collection of Colorado minerals ever been made? T. E. M.

A. Pueblo, Colorado, has such a collection.

Q. Is there any coal being formed at the present time? F. R.

A. The Bureau of Mines says that lignite is being changed to coal, but the process is so slow that the increase in coal supply is too small to be considered.

Q. Is oil found in low land or high? L. L.

A. Oil is found both at low and high altitudes. Wells in Colorado and Wyoming are above 5,000 feet.

Q. How much gas does a gas well produce in a day? D. M.

A. It depends upon the pressure. Some wells produce 30,000,000 to 40,000,000 cubic feet of gas in 24 hours, and some of twice this capacity have been known.

Q. Why do geysers erupt? H. R. C.

A. By seepage from the surface the geyser tube is filled with a column of water, which at a considerable depth receives heat from buried lava flows or other volcanic sources. When the temperature in the lower part of the tube is raised to such a point that the water boils in spite of the column above, a portion of the water is changed into steam and by expansion causes an overflow at the surface. Thus relieved of pressure, a large quantity of water flashes into steam and ejects the whole column violently into the air.

Q. How long does it take to drill an oil well about 1,500 feet deep? E. T.

A. An oil well about 1,500 feet deep would usually be drilled by the standard cable tool method in about sixty days provided the formations to be drilled are of moderate hardness. This is based upon the time of the beginning of the rig to the final completion of the well.

Q. What makes all the colors seen in crude oil? L. B .

A. The iridescence seen on a thin film of oil is due to certain phenomena which result from the mutual action of the rays of light on one another.

Q. What is the correct name for the mineral known as fool's gold? A. B.

A. This is a name for chalcopyrite and sometimes for pyrite.

Q. What is gravel and how is it originally formed? J. B.

A. Gravel is the name given to aggregations of water-worn and rounded fragments of rock, varying from the size of a pea to that of a walnut. When the fragments are smaller than this, the deposit is sand; when larger, it is called shingle. Gravel deposits are formed by the action of running water, and are usually limited in size, occurring with more extensive strata of sand.

Q. Is the diamond really the hardest stone known? F. S. S.

A. Carbonado, a massive, black or dark gray variety of diamond, also called black diamond, which is opaque and therefore of no value as a gem, is the hardest substance known and is one of the most desirable for use in diamond drills.

Q. From what ore is aluminum made? C. O. M.

A. Beauxite is the ore from which the whole commercial supply of aluminum is secured.

Q. Where is amber found? W. H. D.

A. Amber is a fossil resin of vegetable origin. It is usually a pale yellow color, sometimes reddish or brownish. Originally it was obtained by the ancients from the coasts of the Baltic Sea, where it is still found. It is also found in the United States, on the coasts of Sicily, the Adriatic, Siberia and Greenland.

Q. How can real amber be distinguished from imitation? E. B.

A. Real amber will charge with electricity if friction is used. Imitation amber does not respond in this fashion.

Q. Is it true that true amber makes a noise? R. M. K.

A. When pure amber is held near the ear it can be noticed that it gives off a cracking sound.

Q. What oil wells are the greatest gushers? W. S.

A. The Geological Survey says that there is no tabulation of the largest oil gushers. There is one well in Bibi Eibat in Russia which gave nearly three and three-fourths millions barrels in 30 days. The Dos Bocas well, south of Tampico, Mexico, is estimated to have given over five millions in two months. Other prodigious gushers are in Roumania, Russia, and Mexico.

Q. Is granite always gray colored? A. L. M.

A. Granite is usually some shade of gray, but pink and red are not uncommon colors.

Q. How much does granite weigh? J. R. L.

A. The weight of a cubic foot of common granite is from 160 to 170 pounds.

Q. What does gold-bearing ore look like? M. C.

A. The Geological Survey says that the color of gold-bearing ore, the color of the actual vein when disclosed by blasting, the color of the gold-bearing deposit of placer mines, the color of gold-bearing ore prior to the time of going to the smelter, differs according to the ore. Different ores have different colors, this depending upon the associated rock. For instance, if the ore is filled with quartz, it will have a white appearance. Raw nugget gold is yellow. The particles of gold left in the pan or sluice box used in placer or hydraulic mines are yellow. Gold nuggets contain many other minerals. Pyrite, or fool's gold, and yellow mica are often mistaken for gold.

Q. When was the Cullinan diamond found? L. V.

A. This diamond, which in many respects is the most remarkable in existence, was found January 26, 1905. It weighed 3024¾ carats or 1.37 pounds and measured 4 by 2.5 by 1.25 inches.

Q. Is asbestos mined? S. R. T.

A. The United States Geological Survey states that some asbestos is mined and some is quarried. The asbestos of Canada is near the surface and is quarried. That of Arizona is in a pith formation and it is necessary to drive tunnels to mine it. It runs in both veins and blanket formation. When asbestos is mined or quarried it is like rock and is milled into loose fibers.

Q. When was natural gas first used for heat and light in the United States? K. J.

A. As an illuminant, it was first used at Fredonia, New York, about 1824. As a fuel, it was first used commercially in the Pittsburgh district of Pennsylvania about 1882, where it was used for heat and power both for domestic and industrial purposes.

Q. How was gold first discovered in California? C. D. R.

A. On February 9, 1848, a piece or nugget of gold was picked up in a mill race on a branch of the Sacramento River by a little girl named Marshall, daughter of the overseer of the mill, which was owned by John A. Sutter. Some of the men at work repairing the mill race recognized the lump as gold. That was the real gold discovery in California, although it is said that gold was noticed there by persons with Drake in his expedition of 1577.

Q. Just where is the Teapot Dome oil field? A. B.

A. It is an extension of the Salt Creek oil field about 40 miles north of Casper, Wyoming.

Q. Where does asbestos come from? E. A.

A. Canada produces 88 per cent of the world's supply.

Q. What constitutes natural gas? T. D.

A. It is a gaseous member of the paraffin series, petroleum being a liquid member and asphalt a solid one. Natural gas is made up chiefly of marsh gas, or methane (CH_4), which usually forms over 90 per cent of the entire gas, the extremes of a number of analyses of United States samples being 98.30 (Ala.) and 14.33 (Dexter, Kansas). In this same series carbon dioxide ranges from 0.05 to 30.40 per cent; nitrogen from 82.70 to 0.60 per cent and oxygen from a trace to 9 per cent. Other hydrocarbons are usually present in small amounts, but range from a few tenths per cent up to 20 or 30 per cent in exceptional cases. The rare element neon as well as helium has been found in Kansas gas.

Q. What is the age and period of the rocks around Rock Creek, Washington, D. C., and Great Falls? M. L. C.

A. The underlying granitic rock is considered of Archean age. It is much decomposed on the surface. West of Rock Creek it is overlaid by a thin bed of sand and gravel of Cretaceous age. The boulder formation capping the highlands belongs to the so-called Columbian formation. The age of the rocks at Great Falls is Archean.

Q. How many hot springs are there at Hot Springs? J. J. R.

A. Hot Springs, Arkansas, is widely noted for the hot waters that flow from 72 springs, included in a space of ten acres on the west side of Hot Springs Mountain. The waters of these springs range in temperature from 76° to 157° F., and are especially beneficial in the treatment of chronic diseases. In 1832 four sections of land were set off by Congress as a government reservation. Since then the Government has established on the mountain the Army and Navy General Hospital.

XXXIII

HISTORY

Q. How long a period does American history cover? M. A.

A. According to the Dictionary of American dates, the history of this country goes back to 450 A.D. In this year, a Buddhist missionary is said to have visited Fu Sang, supposed to have been America.

Q. How long have there been men in America? C. G. T.

A. Alexander F. Chamberlain in a monograph on American Indians says that by the close of the Glacial Age, man had probably spread over a considerable portion of North and South America. "Perhaps it is fair to say that man has been in America at least 25,000 years and not more than 200,000."

Q. Where are the remains of Christopher Columbus? E. L. B.

A. The ashes of Christopher Columbus are entombed in the Cathedral at Seville, Spain.

Q. On what date did our Constitution go into effect? G. R.

A. It was declared to be in effect the first Wednesday of March, 1789.

Q. Who bought Manhattan Island for $24 and a bottle of whiskey? M. A. L.

A. Peter Minuit, a German colonist in America, who was appointed governor of New Netherlands by the Dutch West India Company, landed on Manhattan Island on May 4, 1626, and purchased the island from the Indians in a trade in which the articles he gave, whether whiskey or what not, were valued at approximately $24.

Q. Who was the first king of England? B. B. S.

A. Egbert, who reigned from 827 to 839, was the first king of all England.

Q. Which signer of the Mayflower Compact was the last to die? A. M.

A. John Alden was the last survivor. He was the youngest signer.

Q. Where was the land that the Government gave to General LaFayette? E. B. C.

A. Under Act of Congress of December 28, 1824, a full township of land, containing 23,028.50 acres, being township 1 north, range 1 east, adjoining Tallahassee, Florida, on the east, was granted to General LaFayette, and title formally passed to him on July 4, 1825. All of the land in said township not disposed of by General LaFayette or his agents under his direction, passed on to his heirs, and it is believed that they have disposed of all the land in this township.

Q. What part of the world was first called America? A. M. D.

A. The name America was first applied to Central Brazil, in honor of Amerigo Vespucci, who claimed its discovery. It was first applied to the whole known western world by Mercator, the geographer, in 1541.

Q. Which is the oldest royal family in the world? A. M. D.

A. The Emperor of Japan is the 122nd of his line, which, according to Japanese history, reckons back to 660 B.C., when Jimmu ascended the throne. Japan has been ruled by an unbroken dynasty ever since the beginning of her history.

Q. How many dresses were in Queen Elizabeth's wardrobe when she died? W. A.

A. The Queen's collection was above 3,000.

Q. How many authors have written biographies of Lincoln? L. C. W.

A. J. B. Oakleaf in Pictorial Review says that there have been 1,500 biographers of Lincoln.

Q. Did John Ericsson discover Labrador? J. J.

A. Leif Ericson, son of Leif the Red, is the semi-historic character who is thought to have discovered Labrador.

Q. Please name some famous bachelors of history. D. A. T.

A. Voltaire, Gibbon, Macaulay, Cowper, Pope, Gray, Charles Lamb, Walter Pater, Swinburne, Beethoven, Leonardo da Vinci, Lord Kitchener, Cecil Rhodes, Gen. Gordon, William Pitt the younger, and Sir Isaac Newton.

Q. How large is Plymouth Rock? E. B. G.

A. Plymouth Rock was originally a solid boulder of about seven tons, consisting of greenish syenite. During the Revolution in an attempt to move it to Town Square it split, but the upper part was afterward cemented onto the base.

Q. How was the body of John Paul Jones identified when removed from Paris to the Naval Academy? P. T.

A. An autopsy was held in order to be positive that the body designated was really that of John Paul Jones. This was probably the first time that such an examination had been made so long after death—113 years. It was a triumph in anthropology and is of deep interest to the medical profession. The excellent state of preservation of the body, due to alcohol, enabled scientists to verify the diseases of the heart and lungs of which the man was known to have died.

Q. Who occupied the first brick house in America? T. T. P.

A. William Penn.

Q. When did the first Jews come to the United States? C. H. C.

A. There may have been a few Jews here before 1654, but it was in that year that they were definitely allowed to seek asylum in New Netherlands. There was a provision that "Jews shall have permission to sail to and trade in New Netherlands and to live and remain there, provided the poor among them shall not become a burden to the company (Dutch West India Company), or to the community, but be supported by their own nation."

Q. How long have there been pogroms? J. F.

A. Pogrom is a Russian word meaning devastation and was applied to anti-Jewish riots in Russia. The first pogroms took place in 1881 and were the direct cause of the first wave of Russian-Jewish emigration to America.

Q. What Queen was first called Empress of India? L. C.

A. The title, Empress of India, was first assumed by Queen Victoria of England. In 1876 a bill was introduced into Parliament providing for this title. It met with much opposition and Disraeli was accused of surrendering to the whim of the Queen in this matter. In reality the idea of the title was to impress British suzerainty forcibly upon the minds of the native princes.

Q. In "The Innocents Abroad," Mark Twain tells of an inscription which reads, "We are the Canaanites driven out of Canaan by the Jewish robber, Joshua." Is the monument bearing it still standing? A. B.

A. It was described by Roman historians 2,000 years ago as standing in the streets of Tangier. It is not known what became of this monument, but the people of Tangier today still point out where it stood.

Q. How did it happen that the ruins of Pompeii were found? P. H.

A. The chance discovery of two inscriptions which were found in 1594 while workmen were making an underground aqueduct led to the uncovering of Pompeii. Systematic excavations were commenced in 1763. Since 1861 the work has been carried on by the Italian government on a system devised by C. Fiorelli. The greater part of the town has now been unearthed.

Q. What was the ground for the debate between Abraham Lincoln and Stephen A. Douglas? H. J.

A. The reason for the debate between Stephen A. Douglas and Abraham Lincoln, was the advocacy by Douglas of states rights as indicated in the Kansas-Nebraska Bill repealing the Missouri Compromise Act (which prohibited slavery from the territory of the Louisiana Purchase north of 36° 30′) and left the inhabitants thereof perfectly free to form and regulate their domestic institutions in their own way. Abraham Lincoln was a staunch supporter of Federal rights.

Q. Did Bryan resign command of his regiment in the Spanish-American War before he knew it would not be called? F. S. B.

A. William J. Bryan did not resign command of his regiment of Nebraska volunteers until it was mustered out at the conclusion of the Spanish-American War.

Q. What amount of indemnity did France have to pay to Germany in 1870? J. F. D.

A. The German Government required an indemnity of five milliards of francs, equivalent to one billion dollars, from France at the close of the Franco-Prussian War. One milliard was to be paid in 1871, and the balance in installments, extending over three years. The last installment was paid on September 5, 1873. France was completely evacuated on the 13th of the same month.

Q. Why do kings always speak of themselves as we? A. G. L.

A. This is a survival from the Roman Empire, when there were two Emperors, one in Italy and one in Constantinople. They issued identical decrees under their joint authority, hence the custom of using the plural we.

Q. What dates divide Ancient History from Medieval, and Medieval from Modern History? J. P. P.

A. The date used for the close of Ancient History is usually 476 A.D. The date for the closing of Medieval History is not so clearly defined. Some historians take the beginning of the sixteenth century —about the time of the discovery of America, some others use the date 1648 A.D., making the Middle Ages include the time between the establishment of the first barbarian kingdom in Italy and the general pacification of Europe, at the close of the Thirty Years' War.

Q. Please tell me whether the present King of England has a court jester or fool? J. L.

A. The Court of England at the present time does not have a court jester. Muckle John, the fool of Charles I, was probably the last official royal fool of England.

Q. Was George Washington ever in England? W. G. H.

A. Washington was never out-

side the confines of this country except when he accompanied to the West Indies his half-brother Lawrence, from whom, later, he was to inherit Mount Vernon.

Q. How long did Benjamin Franklin attend school? F. W.

A. Two years between the ages of 8 and 10 was all the time that Benjamin Franklin attended school.

Q. When did Lincoln say, "You can fool all of the people some of the time; some of the people all of the time; but not all of the people all of the time"? P. M.

A. The Wisdom of Lincoln, published in 1908, says that Abraham Lincoln employed the expression in a speech made at Clinton, Illinois, on September 8, 1858.

Q. Of what King is there no record of his birth, death, or either parent? D. S.

A. Of Melchizedek, King of Salem, it is said: He was "without father, without mother, without genealogy, having neither beginning of days nor end of life."

Q. When was the first Czar of Russia crowned? O. W. H.

A. Ivan IV was crowned the first Czar of Russia on the 16th of January, 1547.

Q. When did Josephus write the histories of the Jews? A. L. P.

A. Flavius Josephus, whose Jewish name was Joseph Ben Matthias, was born in 37 A.D. and died about 100 A.D. The History of the Jewish War, Jewish Antiquities, an Apology of the Jews Against Apion and an Autobiography seem to have occupied him from about the year 70 until the time of his death.

Q. Why and how did England acquire Ireland? P. D. A.

A. The conquest of Ireland by the English was a gradual process. The first step was taken by Henry II, who is said to have obtained a bull from Pope Hadrian IV, authorizing him to take possession of the country. The Tudors steadily pursued the policy of taking land from the Irish chiefs and giving it to the English settlers. The final Act of the Union was passed and proclaimed on January 1, 1801.

Q. Is anything known about the cost of the voyage when Columbus discovered America? D. F.

A. It has been estimated that the first voyage cost only about the equivalent of $7,000 now. Columbus himself received 1,500 pesetas, or about $300 a year, as commander of the Santa Maria, while the captains of the other ships, the Nina and the Pinta, received 900 pesetas a year. The members of the crews were paid as wages a sum equal to $2.50 a month now. The food was furnished for about $1.50 a month per man. The cannon of all three ships cost about 14,000 pesetas, or about what it costs to fire a single charge from one of the guns of a present-day dreadnaught.

Q. When did the first Americans attempt to find the North Pole? V. C. F.

A. The first American expedition for Arctic exploration left Philadelphia on November 4th, 1753.

Q. When was the house at Arlington built? P. N. B.

A. The house with the pillared porch was built by George Washington Parke Custis, grandson of Mrs. George Washington, in 1803.

Q. Was the Alamo of Texas a church or a fort? C. C. R.

A. The Alamo was a Franciscan mission built about 1722 and occasionally used after 1793 as a fort. It consisted of a church, an inclosed convent yard about 100 feet square, a convent and hospital building, and a plaza, covering about 2½ acres and protected by a wall eight feet high and 33 inches thick.

Q. Which of the States bought another State? K. N. I.

A. Massachusetts bought the claims of the Gorges heirs to the State of Maine in 1677 for about 1,250 English pounds.

Q. Was payment for the Louisiana Purchase made in gold? I. R.

A. Payment of the Louisiana Purchase was not made in actual gold coin or bullion. The exact cost of the purchase was 64,000,000 francs in the form of United States 6% bonds, representing a capital of $11,250,000. The ultimate cost would include not only the par value of the bonds but also 10 years interest, the cost of surveying, of government exploration and of selling the lands. In addition the American Government agreed to assume and pay the obligations of France to American citizens for French attacks on American shipping. These obligations were estimated at $3,750,000, making a total payment of $15,000,000.

Q. What is meant by the Great Law in history? B. E. B.

A. The Magna Charta, the charter of English liberty, is often called the Great Law.

Q. On what day did the women who came over on the Mayflower first go ashore? G. S. L.

A. On November 24, 1620.

Q. What was the last thing George Washington wrote? M. N.

A. In the gallery which leads to the Manuscript Division of the Library of Congress, there is exhibited the diary kept by Washington, opened at the page for the record of December 13, 1799. His journal entry is probably his last writing, as he died the next day.

Q. Who owns the original manuscript of Benjamin Franklin's autobiography? J. H. D.

A. This manuscript is owned by Henry Huntington of Los Angeles and New York.

Q. How did bees come to be employed as decorations for Napoleon's coronation mantle? L. C. H.

A. At Tournai in Belgium the tomb of Childeric was discovered in 1655. Among the relics were three hundred small golden models of bees. These were removed to Paris, and when Napoleon was crowned emperor a century and a half later, he chose these bees for the decoration of his coronation mantle.

Q. Is there a record of the first white visitors to the District of Columbia? R. N.

A. The first white man authentically known to have set foot on the soil of the District of Columbia was Capt. Henry Fleet, an English mariner and trader, who made an expedition up the Potomac in 1632 to buy beaver furs from the Indians. He anchored 6 miles below the Falls of the Potomac.

Q. What was the shot that was heard around the world? R. M. S.

A. The shot that was heard around the world was the shot fired by the American Colonists at Concord at the beginning of the Revolutionary War.

Q. Did Franklin sign both the Declaration of Independence and the Constitution?

A. Benjamin Franklin signed both of these documents and also the Treaty of Alliance with France and the Treaty of Peace with England. These were four of the most important documents in early American history.

Q. Did Christopher Columbus receive payment for his discovery of America? N. H. S.

A. The sum he received amounted to about $320.

Q. Are American battles listed among the decisive battles of the world? L. J. P.

A. Historians disagree on the list of battles that have turned the destinies of a race, but two have

been selected by common consent from American history. These are: the victory of the Americans over Burgoyne at Saratoga, and the Battle of Gettysburg.

Q. How many pounds of tea were involved in the Boston Tea Party? H. D. T.

A. Accounts of the Boston Tea Party do not make this clear. The duty was three pence per pound, and the value of the 342 chests of tea was 18,000 English pounds.

Q. How much money did Abraham Lincoln leave? A. L. G.

A. Miss Tarbell in the American Magazine says that President Lincoln left an estate of $110,-974.62.

Q. Why was the Colonial Charter hidden in the Charter Oak? J. J. C.

A. The tradition relating to it is as follows: When Sir Edmund Andros was appointed Governor-General of New England, he came to Hartford in 1687 to receive the Colonial charter. This the colonists were loath to surrender, but appearing to submit, carried it to the council chamber, where during the debate the lights were extinguished and in the ensuing confusion the document was carried from the room to its subsequent hiding place in the hollow of the tree. Here it remained until 1689, when the deposition of Andros made further concealment unnecessary.

Q. What was the width of the Delaware River above Trenton where Washington's army crossed? C. J. M.

A. It crossed at the mouth of a creek at a place where the water was 1,000 feet across.

Q. What was the message to Garcia? O. W.

A. The message which President McKinley sent to Garcia, the Cuban insurgent general, was a query as to the assistance Garcia would furnish to the United States in the War with Spain. Lieutenant Rowan brought back information that Garcia could furnish at least 8,000 well-armed men, and that they had a system of transmitting information through the country and could act as guides.

Q. Did England offer a bounty to men who would fight against the colonies? S. E.

A. She offered ten pounds. Congress gave the Continental Army small grants of land and money, but in 1780 affairs came to such a pass that General Washington offered $200 to retain each of his veterans and when the Army disbanded in 1783, he induced Congress to give the officers five years' pay.

Q. Was John Wilkes Booth considered a great actor? E. S. B.

A. Estimates vary somewhat concerning his ability as an actor. At the beginning of his career in Philadelphia he met with constant failure. He was frequently received with hisses. Later he played two seasons in Richmond, where he was held in esteem. He then became a star and made a tour, commencing at Montgomery, Alabama, and ending at Boston. This was on the whole successful and he was commended particularly for his presentation of the part of Richard III. Booth did not get a hearing in New York except at a few benefits.

Q. Who presented the bill to Congress for declaring war in 1812? O. L.

A. John Calhoun reported the bill, as a member of the Committee on Foreign Relations. In 1817, he became Secretary of War and served in that capacity for seven years.

Q. Is it an historical fact that Nero played a fiddle? D. S.

A. It is certain that Nero did not play a violin as we know it,

since the violin was not developed for centuries after the time of Nero.

Q. Was Patrick Henry an Irishman? H. A. A.

A. Patrick Henry, orator and statesman, was born in Hanover County, Virginia. His father was born in Scotland and his mother was of Welsh descent.

Q. Did Santa Anna of Mexico die a natural death? J. L.

A. Santa Anna died in Mexico City in obscurity on June 21, 1876. He had been condemned to die, but was spared on the ground that he was in his dotage. He died a natural death.

Q. Were John Randolph and Daniel Webster in the Senate at the same time? C. A.

A. John Randolph and Daniel Webster did not serve in the Senate at the same time. John Randolph was Senator from 1825 to 1827. He last served in the 19th Congress, 2nd Session. Webster was Senator from 1827 to 1841. He took his seat in the 20th Congress, 1st Session.

Q. A friend says that Artemus Ward was second in command of the Continental Army during the Revolutionary War. Is this true? A. W. T.

A. Artemus Ward was the pen name of a famous American humorist whose real name was Charles Farrar Browne. The man to whom your friend refers is Artemas Ward of Massachusetts, who was appointed to the command of the forces of that state at the outbreak of the Revolutionary War. Later he was appointed First Major General of the Continental Army, next in rank to Washington, but ill health forced him to resign this position the next year, 1776.

Q. How many wars has the United States engaged in? L. J. L.

A. Twenty-seven are listed, beginning with the Revolution and ending with the World War.

Q. Please tell what the walking purchase was? G. A. T.

A. In 1682 William Penn purchased of the Delaware Indians a tract of land in the present counties of Bucks and Northampton, Pennsylvania, bounded on the east by the Delaware River, and in the interior to a point as far as man could walk in three days. Penn and the Indians started out to walk, beginning at the mouth of Neshaning Creek. At the end of a day and a half, Penn concluded that he had enough territory, and a deed was given him for the land at this point, which was 40 miles from the start. In 1737 the distance was increased to 70 miles.

Q. What king of France tinkered with locks? M. S. S.

A. Filing keys, oiling bolts, and such tinkering with locks, was a hobby of Louis XVI.

Q. When was the golden age in England? J. L. G.

A. The term is applied to the reign of Queen Elizabeth. It was a period in which patriotism assumed proportions never before attained in England. Famous explorers, such as Sir Francis Drake, Frobisher, and Gilbert set out upon adventurous quests. The navy of England swept the Armada from the sea. Christopher Marlowe, Lily, Kidd, Peele, Stern, and Shakespeare were creating the so-called Elizabethan drama.

Q. Where was the ancient city of Troy? F. H. F.

A. It is supposed that the modern town of Hisearlik, Turkey in Asia, is the site of Ilium, known as Troy.

Q. Did any Irishmen come to America on the Mayflower? M. D.

A. William Mullins and Christopher Martin, who are both en-

rolled on the log of the Mayflower, were Irishmen.

Q. What words are inscribed over the Alamo? A. G. L.

A. "Thermopylae had its messenger of defeat. The Alamo had none." This has reference to the little band of 188 men who were massacred by the horde of the Mexicans, numbering about 2,500. Although death was inevitable the little band refused to surrender. For ten days they held the Mexicans back but were finally overcome in a hand-to-hand battle.

Q. What became of the charter granted to William Penn? N. H. F.

A. The charter of Charles II to William Penn is in the archives of the State House at Harrisburg, Pennsylvania.

Q. Where was Daniel Boone buried? R. B. G.

A. Daniel Boone was buried in Missouri in 1820, but in 1845 his remains, together with those of his wife, were reinterred at Frankfort, Ky.

Q. Who is the father of oratory? M. H. K.

A. Corax may be given the title. Greeks settled in Sicily found titles to their property in Syracuse unsettled owing to wholesale confiscations. Upon returning to their country, they found it necessary to appear in person to appeal to the courts. Corax drew up a few simple rules for orderly presentation of such claims and fixed the form of addressing the courts.

Q. Who was the oldest signer of the Declaration of Independence? W. A.

A. When the signatures were affixed Benjamin Franklin was the oldest signer; the next oldest was Stephen Hopkins.

Q. Who gave New England its name? E. T.

A. Captain John Smith traveled the coast as far east as the Penobscot River, and south as far as Cape Cod in 1614-1616, made a map of the region, and suggested the name of New England. A new charter was drafted in 1620 under this name.

Q. How did Villa get killed? M. A.

A. Francisco Villa, the Mexican bandit, was assassinated near Parral in Mexico, July 26, 1923. The act was attributed to the revenge of a family, some of whose members he had killed.

Q. Who were "the tongue, the pen and the sword of the Revolution"? R. A. F.

A. Patrick Henry, Thomas Jefferson and George Washington comprised this trio.

Q. What were Washington's last words? G. A. R.

A. The last expressions of Washington were characteristic of him. He said, "I die hard; but I am not afraid to go. I believed from my first attack that I would not survive it. My breath cannot last long." A little later he said: "I feel myself going. I thank you for your attentions; but I pray you to take no more trouble about me. Let me go off quietly. I cannot last long." He gave instructions to his secretary regarding his burial, felt his own pulse, and died without a struggle.

Q. Why did John Hancock sign the Declaration of Independence first? M. E. H.

A. As president of the convention he naturally headed the signers.

Q. How does the late Emperor of Germany spend his time? M. R.

A. George Sylvester Viereck, who has been in close personal touch with the former Kaiser, states that he spends his time in study and long walks, and exercises by chopping wood and mowing the lawns. At night he reads

extracts from the newspapers to his family circle, and comments as he proceeds.

Q. How often was the first Lord Baltimore in this country? L. M. M.

A. George Calvert, the first Lord Baltimore, came to America twice, in 1627 and in 1629. His son, Cecil, did not visit the colony, but he sent his younger brother, Leonard, who became first Governor of Maryland.

Q. When did Sherman begin his march to the sea? D. R.

A. The march of General Sherman may be said to have begun on July 17, 1864. It ended December 21 of that year.

Q. Who was Asoka whom H. G. Wells includes in the six greatest men in history? D. E. R.

A. Asoka was an emperor of India who reigned from 264 to 228 or 227 B. C. He was a patron of Buddhism in somewhat the fashion that Constantine was of Christianity. Asoka was the most powerful sovereign of his time. The numerous edicts which he had inscribed upon rocks and pillars became monuments to the wisdom and justice of his reign.

Q. Which is England's oldest colony? F. L. N.

A. Newfoundland is England's first and oldest colony. It has recently been made a Dominion because of the heroism of its soldiers in the war.

Q. What was the occupation of Socrates? F. W.

A. He followed at first the craft of his father, a sculptor. Later, however, his time was spent in the market place, catechizing all who would listen. He served as a soldier, and finally became a member of the Senate.

Q. At what period was the Roman Empire at its height?

A. The rule of Trojan, 98 to 117 A.D., marked the height of the Roman Empire. The rule following, that of Hadrian, was memorable for its peacefulnes and for the fact that it was the most splendid era of Roman architecture.

Q. Who was the father of history? M. G.

A. Cicero gave this title to Herodotus, the Greek historian, who lived more than 400 years B.C.

Q. Was Frederick II known as Frederick the Great during his lifetime? H. C.

A. Frederick the Great was given this sobriquet after his death.

Q. To settle a dispute, will you kindly inform me whether Caesar knew of the existence of Ireland? A. D.

A. Francis W. Kelsey in his introduction to Caesar's Gallic Wars says that Caesar knew of Ireland nothing further than the name (Hibernia) and that it was about half the size of Britain proper.

Q. Is the spot marked where John Howard Payne was buried in Tunis? R. G.

A. The body of John Howard Payne was disinterred and removed to America in 1883, but a monument has been placed on the spot where he lay in Tunis 31 years similar to that erected over his new tomb in Washington.

Q. What one of Jonathan Edwards' descendants was a Vice President of the United States? M. L. W.

A. Aaron Burr was a grandson of Jonathan Edwards.

Q. A dispute has arisen regarding Napooleon's height. Kindly set us right. G. B.

A. It is common to have a discussion arise in regard to the physical proportions of Napoleon Bonaparte. Historians disagree in

regard to his height. It is customary to think of Napoleon as a short man. Some writers who are regarded as authoritative speak of him as 5 feet 2 inches tall; others as being 5 feet 7 inches.

Q. Who were the first white women to see the Kentucky River? S. S. T.

A. The wife and daughters of Daniel Boone were the first white women to stand on the banks of the Kentucky.

Q. Did General Grant ever serve as a United States soldier on the Pacific Coast? H. E. F.

A. Ulysses S. Grant served as a lieutenant in an infantry regiment on the Pacific Coast in 1852 and in 1854.

Q. Was Davy Crockett ever in Congress? F. G. S.

A. David Crockett was in Congress from 1826 to 1830 and from 1832 to 1834, representing a Tennessee constituency. At the end of his last congressional term he joined the Texans in their war against Mexico. He helped defend the Alamo in 1836. He was one of the six survivors who surrendered and was shot by order of Santa Anna.

Q. Where was General Custer finally buried? L. W. H.

A. Originally, the general was buried where he fell at the Battle of Big Horn. A year later, however, General Sheridan ordered his brother, Col. Michael Sheridan, to take up the body of General Custer and see that it was transported and buried with due ceremony at the grave which it now occupies at West Point.

Q. Who presided when Aaron Burr was tried for treason? M. G. C.

A. John Marshall presided. The trial ended abruptly because the Chief Justice declared that an overt act of treason must be first proved and then Burr must be connected with it. The government was not able even to convict Burr of a misdemeanor.

Q. Was Aesop a negro? A. E. M.

A. Aesop lived during the latter half of the sixth century. The exact date of birth is unknown. He was a Phrygian; not a negro. Phrygia was a country of Asia Minor. Under the Roman Empire, it was bounded on the West by Musia, Lydia and Caria; on the South by Lycia and Pisidia; on the East by Lycaonia and Galatia; and on the North by Bithynia. Phrygians were probably a branch of the Great Thracian family.

Q. Who was the first to write the phrase, The United States of America? A. L. C.

A. Robert Ingersoll in his oration on Thomas Paine, said of him, "He was the first to write these words: 'The United States of America'."

Q. Did the fact that a man had an ear cut off, cause a war? J. E. H.

A. The War of Jenkin's Ear was the popular name given to the war between Spain and Great Britain in 1739, which was occasioned partly by the tortures undergone by Robert Jenkins, a ship captain, at the hands of the Spaniards. This outbreak was merged into the War of the Austrian Succession.

Q. Is General Robert E. Lee buried in Arlington? T. C.

A. Generals Lee and Jackson are buried in Lexington, Virginia.

Q. Was it ever proposed to name a state for Thomas Jefferson? G. D. T.

A. In 1859 delegates met and adopted a constitution for a State of Jefferson, with an area somewhat larger than Colorado. The opposition held a second convention and established the "Territory of

Jefferson," which later became the Territory of Colorado.

Q. Were Julius Caesar and Napoleon epileptics? D. A. S.

A. Reverend Charles Edward Jefferson says: "It is easy to say that a man was an epileptic after he has been in the grave several hundred years. It is often asserted that Julius Caesar, Mohammed and Charles V and Cromwell and Napoleon I, were all epileptics, but there is no solid ground for such assertion. There is no satisfactory reason for thinking that any one of these men was an epileptic."

Q. Why is the second son of the King of England called the Duke of York? E. D. S.

A. The title, Duke of York, was first used in the year 1385. Since that time it has been used in reference to the second son of the reigning King of England. After the Hanoverian accession, George I created his brother Duke of York. The title was in abeyance until 1892, when it was again conferred on the second son of King Edward VII.

Q. Who was the public man identified with Lincoln's administration who had a club foot? F. B. T.

A. Thaddeus Stevens is the man referred to. He was a leader in the House of Representatives during the Civil War and during the period of reconstruction following, until the time of his death in 1868.

Q. Please give a brief history of the Octagon House in Washington. H. A. P.

A. It was built about a century and a quarter ago, by a member of one of the most distinguished of early Washington families, Colonel John Tayloe, and was designed by Thornton, the architect of the Capital. It is now the headquarters of the American Institute of Architects, the American Federation of Arts, and the Archaeological Institution of America. After the burning of the White House by the British, President and Mrs. Madison established their official residence in the Octagon House and in a room on the second floor, the Treaty of Ghent was signed.

Q. Who was Egypt's last queen? N. S.

A. Cleopatra, who lived from 60 to 30 B. C. was the last queen of Egypt.

Q. What was Lincoln's save the Union statement? S. A.

A. In his famous reply to Greeley, Lincoln said "My paramount object in this struggle is to save the Union, and is not either to save or to destroy slavery. If I could save the Union without freeing any slave, I would do it, and if I could save it by freeing all the slaves, I would do it; and if I could save it by freeing some and leaving others alone, I would also do that."

Q. Can you give me even an approximate idea of the number of times the framers of the Constitution spoke in the Constitutional Convention? R. S.

A. Roger Sherman spoke 138 times; James Wilson, 168; Madison 161; Gouverneur Morris, 173.

Q. Where did George Washington live while President? E. J. M.

A. The first residence of George Washington in New York after his inauguration was the house of Walter Franklin on Dover Street, at the junction of Pearl and Cherry Streets. Congress provided a residence at 3 Cherry Street later, known as the corner of Cherry and Franklin Streets. The President afterwards moved to McComb's House on Broadway, near Bowling Green.

Q. Did Caesar or Napoleon express their admiration of the Alps in their writings? D. A. R.

A. No expression of pleasure felt by Caesar, Hannibal, or Napoleon concerning the Alps is extant.

Q. Was Sir Francis Drake a pirate? W. R.

A. Many of the exploits of Drake were looked upon as piracies, but for the most part he had at least quasi-official sanction from his government for what he did.

Q. Was General Pickett of Gettysburg fame killed in the Civil War? G. W.

A. General Pickett died in Norfolk, Va., July 30, 1875. After the Civil War General Pickett was in the life insurance business.

Q. Did Cleopatra's son ever reign in Egypt? J. P. B.

A. Ptolemy XVI called Caesarion, son of Cleopatra and Julius Caesar, reigned as co-regent with his mother from 47 to 30 B. C.

Q. Where is Major Andre buried? S. T. J.

A. Major Andre was originally buried at Tappan, N. Y., where he was executed the second of October, 1780. In 1821 his remains were taken up and reburied near a monument which had been erected to his memory in Westminster Abbey, London, England.

Q. What were Lincoln's nicknames? I. M. C.

A. He was known as Honest Abe and Father Abraham.

Q. Can you give the names of two men whose friendship rivals that of Damon and Pythias? P. T.

A. It would be hard to find a more beautiful story of friendship than that related of David and Jonathan. In 1st Samuel, 18th Chapter, 1st verse, it is stated "That the soul of Jonathan was knit with the soul of David, and Jonathan loved him as his own soul."

Q. Was Lincoln ever defeated by the direct vote of the people? J. W. T.

A. Two weeks after Lincoln returned from the Black Hawk War, he was defeated in the election of state legislators. Wayne Whipple, biographer, says Lincoln afterward mentioned this as being the only time he was ever defeated by a direct vote of the people.

Q. On what ship from what port did LaFayette come to America? T. K. D. N.

A. The Marquis de LaFayette crossed to America on LaVictoire. She weighed anchor and stood down the river toward the sea, March 26, 1777. The port of departure was Bordeaux, France.

Q. Who was the first Englishman to go round the world? A. H.

A. Sir Francis Drake was the first Englishman who circumnavigated the globe.

Q. Which of the signers of the Federal Constitution were not born in this country? W. K.

A. The eight men of foreign birth who signed this document were: Elbridge Gerry who was born in England; Francis Lewis, Wales; Robert Morris, England; James Smith, Ireland; Matthew Thornton, Ireland; George Taylor, Ireland; James Wilson, Scotland; John Witherspoon, Scotland.

Q. In the oft quoted saying of Lincoln's "All I am I owe to my mother," was Lincoln referring to his mother or to his step-mother? C. R. A.

A. Lincoln's reference was to Nancy Hanks Lincoln. At the time, his step-mother was still alive. His step-mother was of course an unusual woman to whom Lincoln owed a great deal, but his own mother lived long enough to leave the all-important impress upon her son.

Q. In what style of costume did Washington appear at his inauguration? A. H. D.

A. At the first inauguration Washington wore a suit of brown mixture. The material was manufactured in this country. He wore a full suit of black velvet upon the second occasion.

Q. How many men accompanied Columbus when he discovered America? J. K.

A. There were 120 men in the expedition of whom 90 were members of the ships' crew.

Q. Was Edith Cavell, the English nurse, killed by a volley from the firing squad? K. R. J.

A. The statement is made that disliking to kill a woman in cold blood, the firing squad had aimed so inaccurately that Miss Cavell was not killed, but only wounded by a single bullet. Thereupon the German officer in charge of the firing squad drew his revolver, put it up to her ear and pulled the trigger.

Q. What battle was it in which Mollie Pitcher took the place of her husband? R. L. C .

A. The battle in which Mollie Pitcher is said to have taken her husband's place was the battle of Monmouth.

Q. Who was the father of the modern art of fortification? H. A. B.

A. John Ziska, a famous leader of the Hussite party in Bohemia gained this title. In 1420 he took up a strong position near Prague on an eminence since known as Ziskaberg, and held it with a few thousand men against an army of 30,000.

Q. Who was Johnny Appleseed and what did he do? W. C. E.

A. Johnny Appleseed is discussed in a long poem by Vachel Lindsay. This interesting character was John Chapman. He crossed the Appalachians, carrying with him seeds which he planted in the hope that they would someday cause trees to grow and bear fruit in their season. Johnny Appleseed was born, says Century in a prefatory note, in New England in 1775. He died near Fort Wayne in 1847. The editor says of him "He was a sort of secular mendicant friar." He lived to see his trees bearing fruit over a territory of 100,000 acres.

Q. Was Col. Robert E. Lee offered the command of the Union forces at the outbreak of the Civil War? C. W.

A. The command of the United States Army was offered to Robert E. Lee by President Lincoln on April 18, 1861. Francis Preston Blair was designated to approach Lee on this subject. The following reply of Lee is recorded: "I declined the offer he made to me to take command of the army that was to be brought into the field, stating as candidly as I could that, though opposed to secession and deprecating war, I could take no part in an invasion of the Southern States."

Q. Did Col. Robert Ingersoll actually serve in a war? J. B.

A. Ingersoll went to war in 1862 as Colonel of the 11th Illinois Cavalry and was taken prisoner, but was exchanged.

Q. What Confederate General is buried in New Orleans? W. C. G.

A. Confederate Generals G. T. Beauregard, A. G. Blanchard, Harry T. Hayes, and John B. Hood are buried in New Orleans.

Q. Did Stephen A. Douglas outlive Lincoln? S. A. B.

A. Douglas, who was Lincoln's opponent for the Presidency in 1860, died June 3, 1861, while Lincoln lived to be re-elected to the office.

Q. Did Washington ask that no salary be paid him while he was President? J. J.

A. Historians state that while in office Washington accepted expenses only that were necessary to the discharge of his official duties.

Q. When did Omar Khayyam live? G. M.

A. The date of his birth is unknown. He died probably in 1123. This Persian poet was born in Nishapur in Khorassan.

Q. How many times did General Bueller try before he succeeded in crossing Tugela River? A. C. B.

A. General Bueller made four attempts to cross the Tugela River —the first on January 11, 1900. He was finally successful on February 21st.

Q. What country made the first constitution? R. B. Y.

A. Constitutions were adopted by the Roman Empire and the Roman Republic, also by the various free commonwealths of ancient Greece. Modern constitutions are to some extent based on these instruments of the ancients.

Q. Who was the Sweet Singer of Israel? N. K. T.

A. King David was known by this name.

Q. Could you name any songs that Lincoln liked? H. C.

A. Lincoln was fond of Annie Laurie, Mary of Argyle, and Auld Robin Gray. The song he is said to have liked best, however, was Twenty Years Ago, a simple air, the words to which are supposed to be uttered by a man who visits the playground of his youth.

Q. What were the three laments of Cato? E. W. F.

A. Plutarch says that Cato declared that in his whole life he most repented of three things: one was that he had trusted a secret to a woman; another, that he went by water when he might have gone by land; the third, that he had remained one whole day without doing any business of importance.

Q. How many vessels did Columbus have for his second voyage? C. O.

A. Upon his second expedition to the Western Hemisphere, Columbus had 17 vessels, carrying 1,500 persons.

Q. Who was Duncan Phyfe? E. C. F.

A. Duncan Phyfe was a famous American cabinet maker of the early Federal period. He lived from 1768 to 1854.

Q. Who was the last of the Western Emperors? T. D.

A. A lad of six, Romulus Augustulus, son of Orestes.

Q. How long was Washington's Farewell Address? J. H. K.

A. It occupied in manuscript 32 pages of quarto letter-paper sewed together in a book. The address was first published in the Philadelphia Advertiser, September, 1796. The address is dated September 19 of that year.

Q. Why was Marie Antoinette known as the baker's wife? S. D. M.

A. The Baker and the Baker's Wife were names popularly given to Louis XVI and Marie Antoinette because they gave bread to the starving mob at Versailles on October 6, 1789.

Q. Was Thomas Jefferson the last surviving signer of the Declaration of Independence? G. B.

A. According to the compilation of Simon Newton, of Detroit, Charles Carroll was the 56th and the last signer of the Declaration to die, his death occurring Nov. 14, 1832. Thomas Jefferson and John Adams, both of whom died July 4, 1826, were respectively, the 55th and 54th of the signers to pass away.

Q. When did Lenin adopt his nom de revolution? C. T. B.

A. F. A. MacKenzie says that the Russian leader adopted the name Lenin after his return from exile on the Lena goldfields.

Q. Of what disease did Washington die? W. N. D.

A. Washington's death was caused by acute oedematous laryngitis, called at that time quinsy.

Q. What was the name of the other man who rode with Paul Revere? F. G.

A. William Dawes was the other man who rode to warn the colonists of the coming of the British.

Q. Who was the last survivor of the Revolutionary War? T. G.

A. That distinction is claimed for John Gray, who died March 29, 1868, aged 104 years, 2 months, 23 days, and is buried at Hiramsburg, near Caldwell, Ohio. On his tombstone he is described as "The Last of Washington's Companions."

Q. Who was known as the President Maker? W. W. K.

A. This title was given Henry Clay. He was a candidate for the presidency in 1824, his competitors being Andrew Jackson, William H. Crawford, and John Quincy Adams. No candidate received a majority of votes cast, whereupon the election was thrown into the House of Representatives. Clay, as a member of the House was, according to the Constitution, ineligible. He gave his support to Adams, who was chosen, and Clay gained the title, The President Maker.

Q. Did Robert E. Lee of the Civil War ever become a citizen and voter? R. M. L.

A. Quoting a Life of Lee, "it is to be regretted that President Johnson never took the slightest notice of General Lee's application for amnesty and that he died a prisoner of war on parole."

Q. Who was Vice President of the Confederacy? A. T. G.

A. Alexander Stephens of Georgia was the Vice President.

Q. Did a citizen of this country ever conduct a successful revolution or war in Central or South America? M. B.

A. William Walker raised a California company in 1855, and attacked Nicaragua successfully, setting up a government, recognized by President Pierce, which reestablished slavery and invited southern immigration. Walker was driven out of Nicaragua in 1857, made unsuccessful efforts to reinstate himself, and on landing with an expedition in Honduras in 1860 was defeated, court-martialed and shot.

Q. Was Paul Revere this patriot's real name? A. M. R.

A. Paul was the third child of Apollos Rivoire, who came to Boston from Germany. The family name was changed to Revere.

Q. How old was Marie Antoinette at the time of her death? H. S.

A. She was almost 48 years old. She was imprisoned for more than a year before her execution.

Q. What man slapped George Washington on the back? C. S. K.

A. The incident is related of Gouverneur Morris. During the Constitutional Convention in a recess taken by the delegates, Morris asserted his sense of equality to any man and was challenged by Alexander Hamilton to display familiarity with George Washington, the wager being wine and dinner for the company. Morris accepted the challenge and walked up behind Washington and slapped him on the shoulder. Morris stated that the look he received made it the most dearly won wager of his life.

Q. Kindly tell what the Constitution of the United States was written on. R. L.

A. This document is in the Library of Congress. It is written on five sheets of parchment 28 3-4 inches by 23 3-8 inches in size. With the approval of Congress an hermetically sealed case with glass front has been provided so that the document may be viewed by visitors.

Q. How large a throng gathered to hear Lincoln's first inaugural address? G. G.

A. The number has been variously estimated at from 50,000 to 100,000. It was the largest gathering that until that time, had assembled on Inauguration Day.

Q. How far did Paul Revere ride? M. S.

A. The exact length of the ride is not definitely known, but the Librarian of the Historical Society of Massachusetts says that it is estimated at about ten miles.

Q. Is it true that Horace Greeley went Jefferson Davis' bail when the latter was released from Fortress Monroe? H. G.

A. Upon being brought before the United States Circuit Court at Richmond, Virginia, May 13, 1867, Jefferson Davis was admitted to bail in the sum of $100,000, and Horace Greeley was one of his bondsmen.

Q. Is Lenin's body lying on a couch in the open air? E. L. B.

A. Lenin's body lies on a couch in an hermetically sealed pyramid of cut glass so transparent that one knows it is there only by the flash, along the surface, of the shaded lights above.

Q. How long did it take Lincoln to deliver his famous Gettysburg speech? R. C. S.

A. Lincoln occupied about 5 minutes in reading his great oration. It was received without applause, probably because the hearers were too moved for demonstration. Mistaking the silence, Lincoln said to a companion: "I have failed again." Edward Everett, the renowned orator, also spoke at the dedication exercises at Gettysburg, his speech lasting two hours. He was splendidly received, but what he said was soon forgotten.

Q. Who was the first woman to come to America? D. T.

A. No woman arrived with the first settlers in Virginia in 1607. The following year, however, two women, a Mistress Forrest and her maid Anne Burras, came to America. These are probably among the earliest to reach the country.

Q. How long did Patrick Henry study law before he was admitted to the bar?

A. Patrick Henry failed in various enterprises before he made an attempt at law. He read for only six weeks before he applied for his license. The license was granted him on condition that he study further before practicing. He first became famous through his brilliant speech in the Parsons case.

Q. What other ruler was assassinated the same year as President Garfield? A. B. M.

A. Alexander II, Czar of Russia, was assassinated on March 13, 1881, and President Garfield on July 2 of the same year.

Q. Who were the three great generals who were never defeated? W. S. T.

A. Alexander the Great (died 300 B. C.); Julius Caesar (assassinated 44 B. C.), and the Duke of Wellington (died 1852).

Q. Was Washington ever in the White House? F. J. W.

A. It is said that he inspected the rooms in company with his wife just a few days before he died in 1799.

XXXIV

HOME ECONOMICS

Q. What is meant by home economics? G. O. J.

A. Home economics is organized knowledge which treats of food, clothing, shelter and household management in their physical, economic and social aspects as related to the life and welfare of the individual, the family and the community.

Q. How much does it raise the temperature of a refrigerator to open the door? M. M.

A. It has been found that opening the door raises the temperature from one to three degrees.

Q. What can be put on windows that will keep off the frost? L. W.

A. Several remedies are given in order: flame of an alcohol lamp; sulphuric acid; aqua ammonia; glycerine.

Q. What will keep silver knives with steel blades from rusting? C. N. V.

A. All steel articles can be perfectly preserved from rust by putting a lump of fresh burnt lime in the drawer or case in which they are kept.

Q. What can be used to whiten diapers that have become dingy and gray looking? J. H. W.

A. Diapers may be whitened by boiling for one-half hour in strong suds made with yellow soap and milk and water, (half water and half milk). Then wash in ordinary suds (hot) and rinse first in clear hot water and then in cold blued water.

Q. What will keep brass faucets from looking water spotted? N. A. A.

A. After cleaning them, apply a little furniture polish. The oil in the polish prevents chemical action from the splashing water.

Q. Can you tell me how to stiffen a crocheted basket? C. A. I.

A. The best thing to use for this purpose is diluted gum arabic.

Q. How much more soap does it take to wash things in hard water? G. L. C.

A. It depends upon the degree of hardness. A general statement is that it takes four to eight times as much soap to make a satisfactory cleansing lather when hard water is used than when soft water is available.

Q. How long will fruits canned in glass jars keep? M. E.

A. If the cans are properly sealed, the contents will keep indefinitely, though after two or three years the product is apt to become soft or mushy and there is a loss of flavor.

Q. Is there anything that will soften hard putty in cracks? C. J. D.

A. Putty may be disintegrated by the use of a 25 per cent solution of muriatic acid. This does not soften the putty so that it may be used again. It will break in pieces and loosen it from the surface to which it adheres.

Q. What can be done to prevent a maid from cracking and

chipping dishes by hitting them on water faucets? A. S. R.

A. Provide a stool of suitable height and have the maid seated while washing dishes. This saves a great deal of energy and she will transfer the dishes from the sink to draining board at an elevation that does not endanger them. Rubber tips may also be placed on the faucets.

Q. What will remove finger prints around door knobs without making the paint thin? H. S.

A. Dip a damp cloth in whiting and rub gently over the smeared places. Rinse with clear water.

Q. What solution will remove paper from walls? N. E. W.

A. To remove wall paper use one heaping tablespoonful of saltpetre to a gallon of hot water, and apply it to the paper freely with a brush. A whitewash brush is best for this purpose, as it covers a broader space than other brushes. The water should be kept hot and after a few applications the paper can easily be pulled from the wall.

Q. What will keep a cellar from being damp? M. H.

A. Take old preserve cans and put therein calcium chloride, 1 pound of this salt sufficing for a large cellar. This attracts the water from the air, collecting it in the cans. The water, however, is not poured away, but is evaporated on a strong fire, whereby the salt crystallizes again and becomes fit for renewed use. Especially for potato cellars, this process is very serviceable, since sprouting of the potatoes, though not entirely prevented, is considerably retarded thereby.

Q. In the winter when I keep no ice my refrigerator gets a stuffy smell. What will prevent it? E. E. P.

A. The Bureau of Home Economics says that when an ice box is not being used, the doors should be opened and no food should be placed in it. If your ice box is stuffy, scald it out with hot water and keep the doors open and remove any food that you are keeping in it.

Q. How can I remove scorches from linens? A. B. S.

A. Slight scorches on cotton or linen may be removed by wetting the spot with soap and water and exposing it to direct sunlight for a day or more.

Q. Will anything prevent the tarnishing of flat silver?

A. Keeping a piece of camphor gum in the drawer with silver delays the process.

Q. Is there a simple method of eradicating cockroaches? E. C.

A. An effective means is the use of sodium fluoride. This is a white powder to be applied liberally in the parts of the house frequented by the insects, especially the dark corners of closets, pantries, under sinks, around dark places, behind baseboards, or in cracks where they may enter rooms. For convenience in applying, a small dust gun or blower is useful. Make several applications, probably once a week for two or three weeks. Sodium fluoride is slightly poisonous and care should be taken that the dust does not come in contact with foods to be eaten.

Q. Can matting and window shades be given a coat of paint? C. M.

A. Both matting and window shades can be painted to renew them. The secret of success in this work is to apply two or three very thin coats of paint rather than a single heavy coat.

Q. Can you tell me what causes the odor in a kitchen sink, which seems clean? F. S. C.

A. One of the most prolific causes of defilement and offensive

odors in kitchen sinks and their outlets is the presence of decaying grease. This comes from the emptying of kettles in which meat has been cooked into the dish water, and from the soap. The grease lodges in every crevice and catches at every obstruction. A remedy may be found in the use of the common alkalies instead of soap, aqua ammonia in washing clothes, and borax in washing lawns and laces, and washing soda in cleaning dishes. These alkalies prevent a solid soap from forming in the sink and its pipes and neutralizes all effects of decomposing fat.

Q. Are clothes better dried in sunshine or high wind? B. J. P.

A. Sunshine is more desirable in drying clothes than a high wind, since sunshine both sweetens and bleaches them, while a high wind may tear the clothes and will take the stiffness out of starched goods.

Q. Please suggest something for summer window curtains. I dislike the bare windows. A. S. K.

A. Use scrim, voile or swiss curtain material which can be bought by the yard and has a border on one or both sides. Turn a hem on one side wide enough to run the curtain pole through. This will make curtains the depth of the upper window sash, with a border at top and bottom. They make the room look dainty and fresh, but do not obstruct the breeze and do not gather dirt by blowing against the screens.

Q. What will remove smoke stains from bricks on front of a fireplace? E. G.

A. To remove smoke stains from bricks mix 2 oz., of soda, 1 oz. of pumice stone, 1 oz. of salt with water sufficient to make a cream. Rub the bricks well with this composition and let stand for a few minutes and then brush off with a stiff brush.

Q. I have some glue which has hardened, is there any way that it may be softened for use? K. D.

A. If a little vinegar is added to the glue, and allowed to stand a day or two, it will be rendered fit for use.

Q. Is it the freezing or thawing process which causes pipes to burst? R. M. D.

A. The Bureau of Standards says that it is the freezing process that causes pipes to burst. The bursting is due to the expansion the water undergoes when changing into ice.

Q. Should a floor of a room be lighter or darker than the walls? T. O. R.

A. When practicable, the darkest tones should be used for floor and floor coverings, lighter tones for walls, and the lightest of all for ceiling.

Q. Can peaches be put up by the sun preserving method? J. I.

A. Peaches, apricots, and plums are well adapted for sun preserving. Fruit should be carefully picked over and wiped, cut in half and pits removed. Spread on racks or boards and dry in sun for two days, taking in at night. Pack in jars, a layer of fruit, then a layer of sugar using pound for pound, and having the top layer of sugar. The mixture should be covered but need not be sealed.

Q. Why do some potatoes turn dark after being cooked? F. S. B.

A. Such potatoes have been submitted to too low a temperature in storing. The injury does not amount to freezing.

Q. What is verjuice and how is it used in cooking? C. V. C.

A. It is the acid juice of green apples, crab apples or other unripe fruit and was formerly used as a condiment. It has survived in modern cookery in a limited way and may occasionally serve a useful purpose when lemon juice is not readily obtainable.

Q. What varieties of tomatoes are the best for canning? I. D. R.

A. Among the varieties found most satisfactory for the purpose are the Greater Baltimore, Red Rock, John Baer and Landreth.

Q. How can lemons be kept from drying up? F. J. G.

A. If lemons are put in a Mason jar which is sealed they will keep from one to three months.

Q. What minerals are the most important in food? L. R.

A. The Bureau of Home Economics says that calcium, phosphorus, and iron are the most important minerals in nutrition.

Q. What kind of coke is best for domestic use? E. D. H.

A. There are three forms of coke: gas house coke; beehive oven coke, and by-product coke, which is divided into metallurgical and domestic coke. The last is the best for home use.

Q. What makes soap float? A. M. E.

A. This quality is given to soap by blowing it full of tiny air bubbles while it is still hot. The bubbles are invisible to the naked eye.

Q. Does veneered furniture last as long as furniture made of solid wood? F. K.

A. Veneered furniture, if properly cared for, will last as long as solid furniture. The glued joints when correctly made are as strong as the wood under ordinary service conditions. Long exposure to very damp air or direct contact with water, of course, will decrease the joint strength even when a very water-resistant glue is used. But such service conditions would be almost as detrimental to solid furniture, because even in solid furniture, the members are joined together by glue.

Q. Where does Chippendale furniture gets its name? G. M.

A. From Thomas Chippendale, an English cabinet-maker, about 1695 to 1765, who in 1754 published the book, The Gentleman's and Cabinet-Maker's Directory.

Q. What will make thin muslin cuffs very stiff? E. B. K.

A. To improve starch add to each bowl one teaspoonful of Epsom Salts and dissolve in the usual way by boiling. Articles starched with this will be stiffer.

Q. How can alligator pears be served, except in salads? J. E. McD.

A. Aside from salads, the sliced fruit is sometimes used as a garnish for meat dishes; pears may also be peeled, sliced and fried, or the mashed pulp used for sandwiches, with lemon juice, pepper and salt.

Q. Who invented twin beds? G. L. C.

A. Sheraton built the first twin beds, and also the first roll-top desk.

Q. How are soaps classified? A. F.

A. Manufactured soaps are classified as follows: rosin or laundry, settled soaps; toilet soaps, including settled, half-boiled, transparent, and floating varieties; marine soaps; medicated soaps; and manufacturing soaps.

Q. Is there any way to keep peeled peaches from turning brown? G. U. P.

A. Peeled peaches will discolor unless handled rapidly. It is claimed by canners that this discolorization can be removed by blanching the fruit a few minutes in boiling water.

Q . Why is baking soda used with sour milk and baking powder with sweet milk? R. E. H.

A. Sour milk is used with bak-

ing soda because sour milk contains lactic acid, which acid in the presence of moisture will liberate carbon dioxide gas from the soda. This gas leavens the product in which it is used. Baking powder consists of bicarbonate of soda and some acid. The acid present will liberate the carbon dioxide from the soda and hence the sour milk is superfluous.

Q. What kind of beans are used for sprouts in chop suey? L. E. O.

A. The bean that is used in making chop suey is the mung bean. In order to sprout these beans place them in a covered jar with a hole broken through the bottom. This jar should be placed on some sort of a support and water poured in it every morning and evening. In ordinary summer weather with this treatment the sprouts are large enough to use in about one-half week's time.

Q. How can recipes which do not give the exact baking temperature be adapted to temperature cooking? F. T.

A. A recipe calling for a slow oven needs a baking temperature of between 250 and 350 degrees Fahrenheit. A moderate oven has a temperature between 350 and 400 degrees Fahrenheit. A quick or hot oven is above 400 but below 450 degrees, while a very hot oven s from 450 to 500 degrees. Most meats call for a moderate oven after they have been seared, and bread requires the same amount of heat. Baking powder biscuits need a very hot oven, 450 to 460 degrees Fahrenheit, while pie crust is best baked at a temperature between 400 and 450 degrees.

Q. How did the morris chair gets its name? T. D. Y.

A. The morris chair was invented by William Morris, the well known poet, writer and craftsman.

Q. How can a hot water bottle be repaired? R. L.

A. The Bureau of Standards suggests that a hot water bottle be repaired in the same manner that one repairs an inner tube of an automobile tire, that is by applying a patch with rubber cement.

Q. How can rust be removed from the inside of a bread box? H. F. H.

A. It is rather difficult to remove rust from the inside of a bread box. It is advisable to paint it. Two coats of flat white paint should be used with one coat of enamel.

Q. Is there any way to get rid of the odor of food while cooking? D. B. T.

A. When cooking anything which has a strong odor put a small pan of vinegar in the stove or on the stove and there will be no scent of cooking in the air.

Q. What can be used to give mirrors and windows a polished look? F. C. S.

A. Apply calcined magnesia moistened with benzine.

Q. What will keep white silk from turning yellow when washed? A. W.

A. While the results can not be guaranteed, usually rolling white silk garments in a Turkish towel as soon as washed will keep them from turning yellow. They may be ironed in a half hour or can be left 24 hours without harm.

Q. What can be put in a refrigerator to keep it free from odors? W. L. S.

A. Frequent washing of the ice box is important. A small saucer of air-slaked lime set in the bottom of the refrigerator will absorb odors caused by food.

Q. Does bluing cause clothes to turn yellow and have tiny rust spots? D. K. H.

A. Prussian blue, which is one of the chief liquid blues, might

have this effect if soap or other alkali is not carefully rinsed from the clothes. If this precaution is taken satisfactory results are certain.

Q. Is there any way of making paint dry quickly? S. W. C.

A. Ozonized turpentine makes the paint with which it is mixed dry quickly. It is turpentine that has been exposed to the air and sunlight.

Q. Is the cost of starting a washing machine greater than the running charge? A. A. L.

A. It does take more power to start a machine. It is advisable not to stop the engine until the washing is done. Merely put the clutch in, as in the case of automobiles, thus stopping the motor but leaving the engine running.

Q. Why does jelly keep better than canned fruit? E. McF.

A. Jelly is less apt to spoil than canned fruit because it has a larger proportion of sugar in it, and sugar plasmalyzes the bacteria that cause decay.

Q. What is the oldest article of furniture we have? P. T. D.

A. The bed is the oldest. The Egyptians had high bedsteads to which they ascended by steps, and the Assyrians, Medes, and Persians followed the same custom. The Greek bed was a wooden frame with a board at the head. The Romans first began the use of metal beds, using bronze to make them.

Q. At what temperature should canned fruit be kept? W. T. K.

A. Canned products whether in tin or glass should be stored in a cool, dry place not exposed to freezing temperature. Freezing may cause breakage in glass and will cause a deterioration of the food product. Most products packed in glass will bleach or darken if exposed to light so unless the storage room is dark, slip paper bags over the cans or store in the original pasteboard containers. A temperature of 60 or 80 degrees is not injurious to well canned products but during hot weather it is well to examine the cans occasionally to be certain that there are no leaks nor other signs of spoilage.

Q. What makes varnish check? Z. G. P.

A. It is usually due to the fact that the furniture has been exposed to extreme heat or cold, or is due to an inferior grade of varnish.

Q. Is there anything I can put in the water when washing stockings to make them retain their sheen? M. F. L.

A. In rinsing hose a teaspoonful of vinegar added to a bowl of water will help restore the lustre of the silk.

Q. I wish to make an electric lamp. How can a hole be made in the bottom or side of a heavy china vase without cracking the china? A. L.

A. An ordinary twist drill may be used for drilling china. The drill should be sharp and should have a low pitch. The china should be kept wet with turpentine.

Q. How may a crack in linoleum be mended? K. L. C.

A. Finely chopped cork mixed with liquid glue is excellent as a filler for the crack in linoleum. When it has set hard, rub down with emery paper and paint to match with linoleum.

Q. What is the oldest piece of furniture in the world? E. C. T.

A. The throne of the Egyptian Queen Hetshepsu, which is in the British Museum, is the oldest piece of furniture in the world. Many pieces of furniture extant date back 3,000 years.

Q. Will it harm an Oriental rug to put it in cold storage?

A. A dealer in rugs says that it does not harm rugs to place them in cold storage and it does protect them from moths.

Q. What will remove chewing gum from satin slippers? B. H.

A. Gasoline, benzine, chloroform or ether will remove it.

Q. Can the original gloss be restored to rubber overshoes? C. T. A.

A. The gloss on rubber overshoes is made by the use of a special rubber varnish which is applied before the shoes are vulcanized. The gloss can be restored to some extent by rubbing with glycerine.

Q. What will keep soap bubbles from bursting easily? P. T. B.

A. If a few drops of glycerine are added to the soap and water, the bubbles will have a more brilliant color and will last much longer.

Q. What can be done to keep an old rubber coat from sticking together? M. A.

A. Rubber is not very long lived. Having a garment stick together is a sign that the rubber in it is deteriorating. Wet it occasionally.

Q. How can a long bar of pure soap be cut in cakes without breaking it to pieces? W. A.

A. If a string is put around the bar at the place a cut is wanted, the ends crossed and pulled, the string will cut the bar neatly.

Q. My bathing cap has stuck together. How can I get it apart without tearing it? E. W.

A. Soak it in clear, cold water. Before putting a rubber cap away dry it thoroughly as this will prevent sticking.

Q. How can tarnish be removed from silver metal cloth slippers? L. K. S.

A. Silver and gold slippers may be cleaned by brushing with alcohol or gasoline. There are commercial preparations on the market for this purpose which seem quite satisfactory.

Q. What will remove a chocolate stain from a tablecloth? N. N. B.

A. Sprinkle borax on the spot and soak the cloth in cold water.

Q. What will clean tombstones that have turned dark and look dirty? A. L. S.

A. Wash the surface with a mixture of finely powdered pumice stone and vinegar, and leave it for several hours; then brush it hard, and wash clean.

Q. How may the rust stains on porcelain sinks be removed? A. M. E.

A. These stains may be rubbed off with lemon juice or vinegar, provided they are not of too long standing. For what seems to be a more permanent stain, moisten a small wad of tissue paper with a few drops of dilute oxalic acid or hydrochloric acid (both poisons) and wipe the stain; then when it is dissolved wash the porcelain with soapy water.

Q. What will remove candle-wax stains made by colored candles? N. T.

A. Scrape away as much of the wax as possible. Place the stained spot between two pieces of blotting paper and press with a warm iron. Most of the grease will be absorbed by the blotting paper. Then sponge with denatured alcohol to remove the dye.

Q. How much time should be allowed per pound when roasting meat? W. N.

A. Some authorities suggest allowing about 15 minutes for the meat to heat through and then the following schedule is followed: beef (well done), 15 to 18 minutes

per pound; beef (rare), 12 to 15 minutes; lamb, 18 minutes; veal, 30 minutes; pork, 30 minutes; mutton, 20 minutes.

Q. How can rust be removed from cut steel beads? M. E.

A. Rust can be removed from cut steel beads by soaking them in kerosene and then washing in warm water and soap.

Q. Why does the wall paper over a steam radiator become so much more soiled than the rest of the room? Can this be prevented? M. R. P.

A. The increased circulation of the air caused by the heat radiated from a steam radiator carries the dust from the floor to the walls adjacent to such radiator. If these walls are wiped off with a wall brush once a week it will help.

Q. What will remove cigarette stains from the fingers? P. E. T.

A. Lemon juice or grapefruit juice is helpful. The stain wears away very shortly if a cigarette holder is used for a few days.

Q. What color should kitchen walls be painted? D. W. P.

A. Various shades and tones of color are important factors in reflecting light. A kitchen should be a bright, clean looking room. The walls finished in ivory tint will give 72 per cent reflection. If forest green is used the reflective value is only 21 per cent.

Q. Why do we have so many Troy laundries? D. G. Y.

A. The city of Troy, New York, the birthplace of the collar, cuff and shirt industry, was practically the home, and for many years the center of the steam laundry interests of the country. The name has been used by hundreds of laundries in various parts of the United States and is even seen abroad.

Q. How large should a kitchen be? C. I. M.

A. Convenience is more important than size. One hundred twenty square feet of space is plenty for preparing food and washing dishes for a family of average size.

Q. What accounts for yellow stains appearing on clothes when being ironed? I am sure they are not iron rust stains. J. R. H.

A. When a material has not been rinsed sufficiently and is ironed with soap still in the fabric, yellow stains sometimes appear. Ordinary laundering often removes them, and bleaching in the sun will help if the stain is persistent. This condition may be avoided by thorough rinsing of clothes.

Q. How high from the floor should a kitchen sink be built? F. A. O.

A. It depends upon the height of the worker. Every surface should be at least high enough so that the palms of the hands will rest on the surface when the person stands erect. For a woman 5 feet 5 inches tall working surfaces should be 34 1-2 inches from the floor. Sitting on a stool at sink or table is restful and makes its height unimportant.

Q. Is it practical to use rubber rings that have been used before when canning fruit? M. E. L.

A. New rings should be used. It is false economy to use old ones. Rubber rings deteriorate, so new ones should be purchased at the canning season even though some were left over from last season.

Q. How can cherries that are canned in tins be treated so that they will not discolor? J. D. F.

A. The National Canners Association says it is necessary to can red fruit and vegetables, such as cherries and beets, in lacquered cans in order to retain their natural red color.

Q. What causes droplets of water to form on the top of meringue? P. T.

A. Meringue forms syrup because too much sugar has been used. For pies the correct proportions are from one to five tablespoonfuls of sugar to each egg white.

Q. How may grass stains be removed from a child's rompers? F. P.

A. To remove grass stains, dip the portion of the article affected into molasses, and wash out in clear water. Alcohol applied to the spots will also eradicate them.

Q. When I use pen and ink in writing, my first and second fingers become ink marked. What will remove these stains? G. A.

A. To remove ink stains from the fingers, dampen the head of an ordinary match and rub briskly on the stains.

Q. What must be done to walls with sand finish in order to paper them? F. B. W.

A. If the walls have a sand-float finish, the usual finish coat of plaster should be added. When set and dry, the walls may be sized and paper put on.

Q. Should canned goods be boiled before opening? G. N. W.

A. The Department of Agriculture says that it is not necessary for canned goods to be boiled before being opened if government directions for canning have been carefully followed. Many canned puddings on the market, however, are meant to be boiled in the cans, such preparations having the instructions printed on the labels. Some soups bear directions for heating before opening.

Q. Is bluing a dye or a bleach? M. N. V.

A. The Department of Agriculture says that bluing is a dye which neutralizes the yellow in clothes, thus making them white.

Q. Should Oriental rugs be washed in water? P. L. K.

A. Genuine Oriental rugs are improved by such washing. An expert says that lack of washing causes a dry rot which wears out the rug.

Q. How much more sunlight does a south window get than a north window? H. M. S.

A. Experiments conducted by Professor Kunerth, of Iowa State College, Ames, Ia., are reported to have shown that a window on the south side of a building will get in the course of a year 45 times the amount of sunlight that a window on the north side will receive.

Q. How much space will a pound of floor wax cover? R. S.

A. Under ordinary conditions, floor wax should cover about 1,000 square feet to the pound.

Q. What causes small black specks to appear on solid silver, and what will remove them? A. J. D.

A. The small black specks that appear on silver are caused by the chemical action of salt on the silver. These may be removed by any cream silver polish if not eaten too deeply into the metal.

Q. How much silver is there in spoons marked sterling? F. J.

A. All sterling silver must contain .925 fine silver and .075 alloy.

Q. What can I do to avoid constantly polishing my table silver? L. G. H.

A. If table silver is washed carefully and dried from scalding water it will not need polishing so often. Spoons and forks used for eggs should be washed at once, and cleaned if necessary.

Q. What is the temperature of the ordinary refrigerator? M. S. A.

A. The temperature found in the average household ice box is between 50 and 55 degrees F.

Q. What food should be placed in the bottom of a refrigerator? G. M.

A. An ice company advocates the following arrangement; milk in the bottom; just above, butter, eggs, and meat; salad next; vegetables and fruits at top. Nothing but ice should be placed in the ice chamber.

Q. What will keep a silk umbrella from cracking in the folds? J. M. F.

A. The best way to prevent a silk umbrella from cracking in the folds is to open it while drying and leave it with the folds as loosely shaken out as possible when not in use.

Q. Are fabrics of one color more likely to fade than those of other colors? F. B.

A. It is a common fallacy that green, lavender, or some other color is less fast than blue or pink. Fastness depends on the chemical composition of the dye used, not on the color. Dye-stuffs are grouped into various classes according to their composition, and the dyes in some classes are more fast than those in others. A dye that is one of the poorest of its class may have been used on one of the fabrics, while the other may have been dyed with one of the best. Green, lavender, or any one color is just as fast as another if similar dyes are used.

Q. What does vegetable ivory come from? H. T. B.

A. Coquilla nuts, the seed of the piassava or piassaba palm, one of the cocoanut group, a native of Brazil, are known as vegetable ivory.

Q. What will remove hair tonic or iodine from ivory toilet articles? H. A. E.

A. Such stains can not be removed. The toilet articles may be repaired by scraping them down beyond the depth of the stain, then repolishing.

Q. How can ivory be distinguished from its imitations? M. M. B.

A. Genuine ivory can be detected by examining its structure. In pure ivory, little waves may be seen under the microscope, if not by the naked eye. If the ivory is artificial, little holes can be detected in the bone.

Q. How does cooking food change its composition? H. H. S.

A. The combined effect of heat and moisture swells and bursts starch grains, hardens albumen in eggs, fish, and meat, and softens fibrous portions of meat and cellulose in vegetables.

Q. Should flooring run the length or width of a room? F. M.

A. It gives an appearance of greater length to have the flooring run lengthwise. The subfloor should be laid diagonally.

Q. How can scratches be taken out of a varnished floor? F. A.

A. A varnished floor, if not too badly worn, may be renovated by rubbing the scratches with a rag dipped in linseed oil. If the scratches are too deep for such treatment, they may be sand-papered out and a new coat of varnish brushed over them. If the floor is badly worn, the best way is to remove as much of the varnish as possible and apply a fresh coat.

Q. Why is there an odor of linseed oil sometimes when it is used and at other times not? J. T. A.

A. Raw linseed oil leaves an odor for some time while boiled linseed oil is odorless.

Q. If wood has begun to rot will a coat of paint stop the process? S. T. R.

A. If wood has begun to rot or iron has begun to rust, the rotting and rusting will continue after the paint has been applied.

Q. Is it dangerous to cook acid food in aluminum? C. A.

A. Tests made by a food chemist show that the metal is so slightly affected by food acids that careful housekeepers need not worry. Strong alkalis, however, do eat into aluminum, and should not be used to clean such ware. Strong soda, lye or ash solutions should not be allowed to stand in aluminum utensils.

Q. What color is best to attempt to dye a tan coat? I. M.

A. Fabrics dye a darker shade of the original color more satisfactorily than they do an entirely different color. For example, a tan-colored garment will have a clearer color if dyed a darker brown that it will if a red or blue dye is used.

Q. What agent is used for dry cleaning? A. R.

A. Dry cleaning is usually done with gasoline, chloroform, ether, Fuller's earth, dry starch, or magnesia, and meal such as bran or corn meal. Garments are cleaned with gasoline the same way they are with water. Soap may be used in conjunction with the gasoline by taking a cleansing brush and rubbing the spots directly with the gasoline and soap as if it were soap and water. There should be much rinsing afterwards. The principle of the cleaning by the use of Fuller's earth, magnesia, etc., is that these dry materials absorb the grease which binds soil to the fabrics.

Q. What is the oldest varnish in existence? A. H. S.

A. So far as is known, the oldest varnish still existing is that on the wooden mummy cases of Egypt. This is in some instances at least 2500 years old. It is thought to be a solution of resin in some such essential oil as oil of cedar.

Q. How should a concrete floor be prepared for dancing? F. W. C.

A. The floor may be treated with paraffin wax dissolved in turpentine, followed by a coating of powdered wax worked into the floor in the same way that a wooden floor is waxed or polished. Or the floor may be coated with a lather of liquid soap rubbed in with a scrubbing brush. An occasional application of powdered soap will keep the floor in condition.

Q. What will take a heat stain off a mahogany table? G. L. W.

A. Heat stains may be removed from a highly polished table by applying the following in their respective order, using a separate cloth for each: Kerosene, alcohol and sweet or linseed oil. The last should be well rubbed in until the spot no longer shows. Frequently a cloth moistened with warm camphorated oil will remove the stain. If these methods fail, probably the table will have to be refinished.

Q. What will remove paper that has stuck to furniture? J. E. H.

A. Dip a piece of flannel cloth in warm water; saturate the paper by rubbing with the cloth. You will find that the paper rolls off the polished surface. Dry the table thoroughly and then polish with any good furniture polish.

Q. What will keep an open air dance floor from warping? I. L. C.

A. The Forest Service says that a certain amount of trouble from warping may be expected. Assuming that it is impractical to cover the floor with tarpaulins or other coverings, the best that can be done is to keep the floor thoroughly varnished or waxed and dried as quickly as possible after rain.

Q. What will keep piano keys from turning yellow? E. D.

A. Keeping the piano open is the best preventive and the best remedy.

Q. What will remove paint from an iron bed? E. D. H.

A. Scrape off as much paint as possible with an old kitchen knife. Then to soften whatever paint still adheres to the bed, apply with a paint brush spirits of turpentine, benzine, or a strong solution of equal parts of oxalic acid (poison) and water. After this has stood a short while, the paint can be wiped off with a coarse cloth or scrubbed away. Repeat this process if necessary.

Q. When should a house be painted? E. V. B.

A. Painting, especially the priming coat, should be done in dry weather and preferably after a dry spell. The settled weather of the fall is therefore more desirable than the unsettled weather of the spring.

Q. All the furniture polishes I use seem to leave the furniture oily. What can I do to avoid this? T. O. R.

A. Furniture polish containing oil or wax will not be needed if the wood is washed occasionally with clear warm water, not hot, without soap, and rubbed dry with chamois or a soft cloth. But if furniture polish containing fixed oils is used the furniture must be rubbed vigorously and kept in condition by daily rubbing to prevent oil accumulating so as to be left or seen. Furniture oil should be used sparingly and the wood rubbed to a high polish or until it does not have any greasy feeling.

Q. What is gumbo file? W. T. G.

A. It is a powder made by drying sassafras and bay leaves, then grinding them.

Q. What is the cost of burning city garbage? J. F.

A. The cost of incinerating garbage in the United States ranges from $250 to $1,000 per annum per 1,000 of population, the average being about $600.

Q. How many patrons must a meat market have to make it pay? H. E.

A. The Department of Agriculture says that it takes about 1000 persons to support one meat store. For a market to be operated on a safe margin 1200 people should be served.

Q. How can a person judge whether a table cloth is all linen? T. R.

A. Linen absorbs water immediately, and feels heavier than cotton. Linen, if freed from dressing, becomes translucent when treated with olive oil; cotton remains opaque. If torn quickly, linen threads will be smooth; cotton threads will curl.

Q. What causes paint to peel? What can be done about it? M. A. B.

A. The Bureau of Standards says that peeling and blistering of paint may be caused by dirt, dampness, grease, or foreign matter in the oil of the paint. Where such a condition arises it is necessary to scrape and repaint.

Q. How can ink spots be taken off a walnut table? T. L.

A. In order to remove ink spots from a walnut table put a few drops of spirits of niter (nitric acid) in a teaspoonful of water, touch the spot with a feather dipped in the mixture, and as soon as the ink disappears rub immediately with a rag wet in cold water or it will leave a white mark. The spots should then be polished.

Q. What can be used to make paper stick to walls? N. E. N.

A. The walls should be scraped, then sized with vinegar and sugar. One pound of sugar should be used to one gallon of vinegar. Do not use glue nor water in the vinegar. Allow walls to dry thoroughly before papering.

XXXV

HYGIENE

Q. What percentage of the population is sick all the time? A. M. A. M.

A. Seven community surveys were made in widely separated localities under the direction of the Metropolitan Life Insurance Company to determine the extent of sickness, especially among the wage-earning population. They show an average percentage of sickness of 2.02, while 1.88 per cent were sufficiently sick to be unable to work.

Q. Should a baby be placed in the sunshine when asleep? P. H.

A. A baby's eyes and head should always be shielded from the direct sunlight. This is just as important while he is sleeping as while awake.

Q. What is the benefit derived from yawning? C. E. S.

A. Yawning restores the equilibrium of the air pressure between the middle ear and the outside air. The result is often a feeling of relaxation.

Q. In what city do people live the longest? O. R.

A. Life tables based upon the 1920 census show that in the fourteen cities of which statistics have been compiled, Washington, D. C., leads. The expectation of life for white males in this city is 53.83 years and for white females, 59.83 years.

Q. How many different causes of death are there? L. K.

A. Fifteen principal causes of death are listed by statisticians, as follows: pneumonia, consumption, heart disease, diarrhoeal diseases, kidney diseases, apoplexy, cancer, old age, bronchitis, cholera infantum, debility, inflammation of the brain and meninx, diphtheria, typhoid, and premature birth.

Q. Is it correct to say that there are five fingers on each hand? J. W. A.

A. Strictly speaking, the thumb should not be referred to as a finger and we have on each hand four fingers and a thumb. The term that refers to all five of the divisions of the hand is digit. However, the word finger has come to be used loosely in reference to the four digits and the thumb.

Q. What will remove a cinder from the eye? A. M. E.

A. To remove cinder or sand from the eye, place one or two grains of flaxseed in the affected part, or drop caster oil in the eye freely.

Q. How fast does the blood circulate? L. M.

A. It is said that all the blood in the body goes in and out of the heart once every minute.

Q. How does the number of colds compare with other prevalent diseases? H. M.

A. The Public Health Service says that while no record is kept of the number of colds occurring in this country, it is accepted that they are more prevalent than any

of the common diseases. Next to colds, diphtheria, measles and scarlet fever occur in the order named.

Q. Is it true that insane persons usually have a lucid interval just before death? T. E. A.

A. It has been observed that very few insane persons regain lucidity immediately before death.

Q. How much sleep should a schoolboy of 15 get? E. W. J.

A. Boys and girls between the ages of 14 and 16 require 10 hours of sleep.

Q. Are more muscles brought into action to make a smile or a frown? J. S. T.

A. Thirteen muscles are required to make a smile and fifty to make a frown, therefore, the frown requires the greater expenditure of vitality.

Q. How many adults have perfect sight? G. S.

A. Statistics covering many years show that only one person in 10 over 21 years old has perfect sight. At the age of 40 it is almost impossible to find a man or woman whose sight isn't imperfect.

Q. Will sitting in a draft give a person a cold? C. C.

A. The Public Health Service says sitting in a draft does not produce cold, but the chilling of the body which the draft produces lowers the powers of resistance. Germs which hitherto were harmless then produce their disastrous effects.

Q. How many square inches of skin has an adult? A. G. L.

A. Dr. W. A. Pusey says that the average individual has about one and one-half square meters of skin. This is approximately 3500 square inches.

Q. Did country or city boys average best in physical fitness during the war? R. E. P.

A. The records of physical examination show that country boys made better records than those from the cities. These differences were so considerable that 100,000 country boys would furnish 4,790 more soldiers for the military service than would an equal number of city boys.

Q. Can you tell me what is the most delicate use of the muscles than man can make? E. J. D.

A. It is said that the finest and most delicate use that we make of our muscles is in speaking.

Q. How much does the blood in a human body weigh? L. J. P.

A. The amount of blood in an average man weighs about seven pounds.

Q. Who live the longer, industrial or office workers? C. M. T.

A. Dr. Louis I. Dublin, the distinguished statistician, recently stated that the life expectation of industrial workers is eight years less than that of office workers.

Q. What is a sneeze? J. M. T.

A. A sneeze is a sudden, violent, and spasmodic exhalation of breath, wholly or partly through the nose. A sneeze is caused by irritation of the nasal branches of the fifth pair of cranial nerves.

Q. Does a graduate of a medical school in the United States have to stand an examination in order to practice medicine in Cuba? Z. S.

A. The Cuban Legation says that the Cuban Government recognizes a number of the leading medical colleges in this country, and the graduates from these colleges are permitted to practice without any special examination.

Q. Is it true that one leg is longer than the other, and that for this reason a person when lost walks in a circle? A. W. C.

A. There is a slight difference

in the length of a human being's legs. This difference may occur in either leg. Although disputed by some persons, it is said that the right side of the body is slightly heavier than the left. The right side of the body is controlled by the left side of the brain, which is usually the larger side, except in a left-handed individual, when this is reversed.

Q. What causes pyorrhea? C. H. M.

A. The Public Health Service says that pyorrhea is a disease of the gums and is caused by the accummulation of tartar where the teeth join the gums. The gums become irritated and infected by diseases producing germs, the tissues are broken down and pus forms. Unless the pyorrhea sufferer is prompt in putting his case in the hands of a competent dentist, the infection continues, rapidly dissolving the soft bones surrounding the teeth.

Q. Is there any medicinal value sunlight? P. L.

A. The therapeutic application of sunlight is an empirical mode of treatment in many diseases, which has been handed down through generations. There is undoubtedly a life-giving principle or growing stimulus in sunlight, and men and animals require it as well as vegetation.

Q. What makes a person stretch? T. T. J.

A. The necessity or desire to stretch comes because certain parts of the body are not receiving the proper amount of blood circulation and stretching is an instinctive action to accelerate the circulation.

Q. Is it true that giants obtain their growth as a result of a disease? I. D. B.

A. Gigantism is a rare disease supposed to be associated with changes in the pituitary body. The abnormal growth is usually in the bones of the face, arms and legs. Most giants seen in circuses have this disease, or develop it in time.

Q. When a woman is weighed how much should be allowed for her clothes? J. K.

A. Modern day attire minus hat and coat weighs about 3 1-2 pounds. This is in sharp contrast to the styles of 400 years ago when a lady of fashion wore garments weighing 35 pounds.

Q. Does rain help people suffering with hay fever? L. L. A.

A. Continued rain affords relief to such patients for it causes precipitation of the pollen in the air and prevents more of it leaving the plants. If the rain lasts long enough the sufferer finds relief because the effects of the inhaled pollen wears off.

Q. How much heat does the human body generate? D. W. T.

A. Taking the weight of the average man at 140 pounds, he gives off 336 to 400 British Thermal Units per hour when at rest, 368 to 473 when in easy action, and 525 to 735 when at hard work.

Q. What does a teardrop contain? H. J. G.

A. The United States Public Health Service says that tears usually consist of pure water with traces of salt, but in cases of systemic poisoning the tears may show the poison and in diabetes, they may become saccharine.

Q. What do dentists use for filling teeth? D. C.

A. Dentists use most frequently amalgamated alloy for filling teeth. This alloy is made by melting and casting silver, tin, copper and sometimes zinc in the approximate ratio of 67:27:5:1. This material is next filed to chips. These chips are then amalgamated with mercury and later crystallized into a solid mass.

Q. How many pores are there

in the human body? T. C. M.

A. The number has been estimated at more than two billion.

Q. Why do my muscles get sore when I play ball in the spring? C. D.

A. Because, probably, during the winter you have not been exercising the particular muscles employed in throwing a ball enough to keep you in good condition.

Q. Does Brazil have serious epidemics of yellow fever? R. A. A.

A. The Pan American Union says that it attaches no importance to the outbreaks of yellow fever in Brazil. They occur just as outbreaks of measles occur in this country. Such epidemics never get out of hand, due to improved sanitary conditions and complete hospital equipment.

Q. What is the American Medical Association? W. W. N.

A. It is the national organization of the medical profession and is made up of the combined membership of the various state medical associations, which, in turn, are made up of local medical societies. Nearly 90,000 physicians are members of this association.

Q. What part of the anatomy is known as the third lung? T. T. W.

A. The skin is spoken of as the third lung because of the fact that twice as much waste matter is discharged from the body by means of the skin as through the lungs.

Q. Are there any Federal health resorts? A. J. L.

A. Hot Springs National Park in Arkansas is the only resort in the United States under Government supervision.

Q. Are alcohol and tobacco bad for a tuberculosis patient? T. C.

A. The Public Health Service says that alcoholic liquors are always harmful to such a patient, even when taken in moderation. The effects of tobacco are so different in different cases that no general rule can be laid down.

Q. Is catalepsy a disease? I. L.

A. Catelepsy is a peculiar motor phenomenon, not a disease, found in a number of nervous disorders and consisting of a persistent muscular attitude of some part of the body. Catalepsy may or may not be accompanied by unconsciousness.

Q. How old is the practice of dentistry? E. F. M.

A. It dates back to the earliest periods of history of which we have authentic records. As a distinct and definite profession, however, dentistry may be said to date from the incorporation of the first dental college in the world, the Baltimore College of Dental Surgery, which received its charter in 1839.

Q. How long has antitoxin for use in cases of diphtheria been known? S. F.

A. Emil Buhring announced his discovery of diphtheria antitoxin in 1890. In 1901 he received the Nobel prize in medicine for his discovery of diphtheria serum.

Q. How strong was Sandow? C. D. L.

A. It is difficult to compare strong men. Each has his own special tests, at which he is superior to the rest. A recent newspaper article stated that unquestionably the strongest man of modern times was Louis Cyr of Canada, who was considerably stronger than Sandow. Breithart, who died in October, 1925, is said to have come nearer to emulating Sandow than any of the latter's many imitators. Certain strong men excelled Sandow in specific feats. For instance, Arthur Saxon was the best lifter of weights ever produced. Steinbach, Inch, Ashton, Trabis, Rolandow, and Lurich each had some unusual performance to his credit.

Q. Is it injurious for a three-

year old child to suck his fingers? F. E. M.

A. Fingers and thumb sucking, according to baby specialists, is a habit that has many evil effects, though it appears to many parents to be trivial. For instance, it tends to spoil the natural arch of the mouth, causing the protrusion of the upper jaw; it induces a constant flow of saliva, and the hands being very often dirty, may readily carry disease germs to the child's mouth. If patience and persistence on the mother's part do not break the habit, bitter aloes should be applied to the fingers.

Q. I stutter and would like to know whether I can be cured. T. S. W.

A. Stammering is frequently overcome by comparatively short treatment. It is generally due to a nervous condition which does not affect the general health. There are many schools where pupils are taught to overcome stammering.

Q. What should be done for a black eye? C. K.

A. The Public Health Service advises that the swelling can be reduced by applying to the closed lids every three or four minutes, little squares of clean, white absorbent cotten or linen about the size of a silver dollar and which has been laid on a piece of ice until thoroughly cold. This is most effective when kept up more or less continuously for some twelve or more hours. The removal of discoloration may be hastened by applying below the lower lid, little pieces of flannel dipped in water as hot as can be borne. Change the bits of flannel as often as they become cold, keeping up the treatment for half an hour. Rest for several hours, then repeat the treatment until desired results are obtained.

Q. Which is the largest bone in the body? M. S. M.

A. The femur is the largest, longest, and strongest bone in the human body.

Q. What disease causes the most deaths in the United States? H. T. H.

A. The Public Health Service says that disease of the heart, at present, causes more deaths than any one thing. Influenza and pneumonia stand together in the next place as fatal diseases.

Q. Why don't people take sulphur and molasses in the spring as they used to? R. A. B.

A. The Public Health Service says that since people have paid more attention to a properly mixed diet and secure such a wide variety of vegetables and fruits both winter and summer, they do not require the so-called sulphur and molasses spring tonic as our forefathers did.

Q. What causes seasickness? J. D. S.

A. It is due to the peculiar effect of the swells or long rolls of the sea upon the internal ear. What are called the semi-circular canals of the internal ear are certain spaces filled with fluid. They act as a spirit-level to determine our place in space. The pronounced movements of the ship on a rolling sea make undue demands upon these organs, and the symptoms of seasickness develop.

Q. Do the children of German and French parents who immigrated to this country grow taller than their parents? M. N.

A. It has been noticed that the children of French, German, and British immigrants also, grow slightly taller than their parents.

Q. How many people suffer from flat feet or fallen arches? A. L. H.

A. The War Department says that nearly 12 per cent of the men examined for the Army suffered from fallen arches or flat feet.

Q. What is the most sensitive part of the body? S. C.

A. Authorities say the Adams apple is the most sensitive spot on the human body. Pressure with both thumbs at this point is almost unendurable, while a sharp blow there will paralyze the power of speech and interfere with breathing and swallowing to a degree that is torture.

Q. Are freckles hereditary? A. H. J.

A. Authorities say that freckles are sometimes hereditary, appearing soon after birth and continuing through life, or subsiding or vanishing altogether.

Q. In what part of the country do people live the longest? S. H.

A. The longest lived people are said to be the Kansans. Wisconsin ranks second in expectation of life.

Q. How fast can a person think? C. M.

A. Popular Science says that the speed of nerve impulses is 404 feet a second. If an idea is complicated enough to take 100 nerve messages from one side of the brain to the other, the thought could be completed in less than a tenth of a second.

Q. Who discovered bacteria? W. K.

A. The first recorded observation of the bodies we now recognize as bacteria was made about the middle of the seventeenth century by Antony van Leeuwenhoek, a Holland lens' grinder, who reported his discoveries to the Royal Society of London in 1683.

Q. After resuscitating a person who has been rescued from drowning, is it safe to let him walk? C. S. F.

A. Great care should be exercised until the person has fully recovered. If after being partly resuscitated he must be moved, carry him on a stretcher. It is dangerous to make an ill person, or one injured in any way, sit up or stand. To make him walk might cause his death.

Q. Is it true that longevity runs in families? L. H. A.

A. Scientists seem generally agreed that longevity is inherited—that is, the son of a man who lived to a great age is more apt to live to a great age than the son of a man who died early of natural causes. Alexander Graham Bell established this fact by a study of the famous Hyde genealogy. Another authority estimates that 50 to 75 per cent of the death rate is due to heredity—that is, that percentage of deaths are due to inherited constitutional conditions, and could not have been postponed any considerable length of time by change of environmental conditions.

Q. Is it true that they are making false teeth of steel in Germany? T. T. K.

A. The Krupp Works in Germany are now manufacturing enameled steel false teeth. Eight dentists are employed in the department, and it is said that the steel teeth are becoming increasingly popular because of their durability.

Q. Is laughter antiseptic? P. L. H.

A. S. Weir Mitchell, nerve specialist, said it could be used more effectively than medicine to fill prescriptions. Good humor aids digestion and was appreciated by the ancients who employed jesters to make jokes and puns at meal time.

Q. How long will an average person survive without food and water? N. C. S.

A. Unless subjected to extremes of temperature, the average healthy individual will survive a week or ten days of complete abstinence from food or water.

Q. How many people are left-handed? C. E. G.

A. Left handedness occurs in about 9 per cent of human beings.

Q. How should a place be treated when vacated by a person having tuberculosis? J. B. Q.

A. A house occupied by a tuberculosis patient should be well aired, allowing the rays of the sun to penetrate the rooms as much as possible. Tubercle bacillus lives in dark rooms or halls for months, but sunlight kills it in a few hours. Dirt serves as a preserver of these germs, therefore, a house so infected should be well cleaned, the woodwork and floors being washed with hot water and soap. It would be safest to have the walls repapered.

Q. Is being overweight always a bad condition? A. S R.

A. According to insurance experts, at ages under thirty years the lowest mortality rates among insured persons are those whose weights, are about ten pounds above the average. After the age of thirty the most favorable mortality rates are found among persons whose weights are below average.

Q. Why do some people have wisdom teeth while some do not? J. F. G.

A. The third molar, or wisdom tooth, is the most variable as to its time of appearance. It may be cut almost as soon as the other molars, or many years later, or not at all. There seems to be no explanation of this variation in the development of the third molar.

Q. What diet should a boy follow who is going out for track work? A. D.

A. The diet-table of various trainers differ considerably. As a general rule it may be said that the diet should consist of wholesome food, such as good lean beef, toast or stale bread, and potatoes and green vegetables of all kinds. Avoid puddings, pastries, sauces, pickles, and spices. Tobacco in all forms is forbidden.

Q. Should false teeth be worn at night? P. B.

A. Artificial teeth should be worn constantly. Removing them for the night causes the jaws to assume an unnatural position, bringing a pressure upon the nerve at the hinge of the jaw This has even been known to cause deafness.

Q. Why do people yawn? O. A. K.

A. Yawning is an involuntary and wide opening of the mouth and inhalation of breath, generally produced by weariness, intense absorption caused by an involuntary interruption of full breathing, or by an inclination to sleep; sometimes by hunger, etc. In some instances by the frequency of its recurrence it becomes a real disease. Persons suffering from heart disease may be liable to yawning fits. When yawning is troublesome, long, deep respiration, or drawing in the air at long intervals, relieves it.

Q. Is it healthful to have plants in a sleeping room? R. J

A. An authority on horticulture says that plants cannot stand bad air, and they should never be kept in a sleeping room during the night, for they consume the fresh air and give out carbon dioxide, which is detrimental to the health of the individual using the room.

Q. How did deaths from flu compare in number with those of the World War? L. C. M.

A. It is estimated that the flu epidemic of 1917-1919 took a toll of life of not less than 25,000,000 persons, more than four times as many as the battle deaths of the World War.

Q. What is bulimia? L. G. S

A. Bulimia is a disease characterized by excessive hunger. Persons suffering from it are never satisfied.

Q. What are the duties of a dental hygienist? W. D. D.

A. The dental hygienist is permitted only to remove stains and deposits from the exposed surfaces of the teeth. He may be employed in public institutions, in schools, and in offices of licensed dentists.

Q. Is tuberculosis inherited? N. R. K.

A. The National Tuberculosis Association says that tuberculosis is not hereditary, and it is practically never handed on from parents to a child before birth. Infection usually comes from tuberculous parents or relatives who, by careless habits, infect the healthy child shortly after birth.

Q. Why does wood alcohol poisoning so often result in blindness? I. M. C.

A. Wood alcohol acts on the blood vessels, causing hemorrhages. The tiny arteries of the retina of the eye are often ruptured, causing loss of sight.

Q. Are women more susceptible to seasickness than men? E. H.

A. Women as a rule suffer from seasickness more often than men. Young children and old people possess comparative immunity from this affection.

Q. Is it true that a person dreaming of falling from a great height will die from shock if he does not awaken before he hits the ground in his dream fall? S. I. D.

A. Physicians say that such an idea is ridiculous, although this is not susceptible of absolute proof, for if any man has ever died from the shock of landing at the bottom of a dream fall he has never had a chance to tell the world about it.

Q. Are the five and seven-leaf woodbine poisonous? G. B.

A. The Department of Agriculture says that they are not poisonous. Poison ivy or oak is three leafed. The old saying "Leaflets three, Let it be" is still a slogan of safety. The fruit of the poison ivy is white and waxy, resembling to some extent the mistletoe berry.

Q. What foods should be eaten by one who wants to lose weight? V. E. R.

A. Government authorities say that the following foods are best for one who wishes to reduce: fresh fish of any kind except salmon or mackerel; lean beef, mutton, or lamb; chicken or turkey, without stuffing or gravy; stale bread, dry toast or crusts in small quantities; spinach, lettuce, celery, radishes, asparagus, cauliflower, cabbage, tomatoes, onions, turnips, and squash by way of vegetables; and ripe fruits by way of dessert.

Q. Which is more important to the diet, mineral salts or vitamines? C. H. R.

A. Vitamines are necessary to bring about the proper metabolism and to help disseminate the mineral salts. Many authorities insist that a lack of vitamines is more dangerous to health than a lack of mineral salts.

Q. Who was the earliest writer on dietetics? E. B.

A. Diet was studied in very ancient times. Hippocrates, the famous Greek physician, was interested in dietetics. Maimonedes, the great Jewish physician, wrote a series of letters on dietetics for the son of his patron, Saladin. These are probably among the earliest writings on the subject.

Q. What is the first case of a man living after his heart had been stitched up? C. B. B.

A. The first surgeon who closed with stitches a wound in a man's heart with recovery of the patient

was a German surgeon by the name of Rehn. The operation was done in 1896 and was reported to the German Surgical Congress in 1897.

Q. When is the proper time to exercise? C. K.

A. According to the Public Health Service better results are obtained from exercise if taken about three hours after meals and one should preferably not eat again until an hour has elapsed after exercising.

Q. Is it true that one should not indulge in mental work directly after eating? E. M.

A. The Public Health Service says that it is more or less injurious to indulge in mental work directly after eating a meal because of the fact that the blood is taken away from abdominal organs to the brain and this arrests the process of digestion.

Q. Do dogs carry tuberculosis germs? E. P.

A. The Public Health Service says that while dogs may have tuberculosis they are not considered a common source of its transmission.

Q. About how fast should a person lose weight while reducing? D. K.

A. The Public Health Service says that in effecting reduction of weight, care should be taken that such reductions are not effected too rapidly. A loss of from 1 to 1½ pounds per week is satisfactory and from 4 to 6 months should be taken for a reduction of 25 pounds. This gives the tissues an opportunity to readjust themselves properly.

Q. What should be applied to mosquito bites? W. R. B.

A. The bites and stings of mosquitos are best treated by applying a few drops of household ammonia or bicarbonate of soda. If there is much irritation it may be relieved by applying cold cloths or a solution of boric acid.

Q. How often should a person have his teeth examined? G. O. T.

A. The Public Health Service says that everyone should have a careful examination made of the whole mouth by a qualified dentist at least twice a year.

Q. What three occupations rank highest as muscle developers? O. L. G.

A. It is not possible to select any three definitely. Among the strongest men in ordinary occupations are stevedores, moving van men, and steel workers—the big fellows known as puddlers.

Q. Are all vocal cords of the same length and thickness? G. W. C.

A. They vary both in length and thickness.

Q. Is blood red? J. T.

A. The red characteristic of blood is not evident in a single corpuscle which appears of a light straw color. When, however, a large number of cells are seen together, the mass appears bright red.

Q. Are venereal diseases common in this country? A. S. M.

A. The Public Health Service says that it is generally conceded that 10 per cent of the people are affected with venereal diseases.

Q. Doesn't the human heart ever rest? H. H. R.

A. The heart rests between beats, about eight-tenths of a second elapsing between the contractions which are about one-tenth of a second in length.

Q. Is it dangerous to crush hard foods with the teeth? W. E. D.

A. While crushing such things as hard crusty foods, hard candies, etc., may tend to increase flaws in the enamel of teeth, investigations of the crushing force of the teeth

have proved that sound teeth are capable of crushing much harder substances than these without injurious effect.

Q. Are most of the things a man does done consciously or unconsciously? E. V. R.

A. Dr. William J. Mayo, of Rochester, is authority for the statement that man, when most alert and most alive to his physical condition, is only 25 per cent conscious of what his body is doing.

Q. Are brothers and sisters more blood relation to each other than to their mother and father? T. P.

A. The Eugenics Record Office of the Carnegie Institution says that brothers and sisters are more closely related than father and son, or mother and son. Biographically a father and son have one half common blood, while a brother and sister have all common blood. One contains with his half brother the some amount of common blood that he contains with his father.

Q. Can bowlegs be straightened? A. B.

A. Bowlegs may be remedied in many cases by appropriate orthopedic appliances or by means of a surgical operation. In the latter case the outer condyle of the femur is cut off in a slanting line, and the limb aligned, after which the condyle is allowed to knit to the femur in its new position; or the shaft of the bone may be broken, the leg straightened and bandaged in proper position until healing is complete.

Q. Is it true that practically everybody has bad teeth? B. O.

A. According to one of the schools of dentistry there are 400,000,000 defective teeth in this country, averaging about four to the individual, but there are no records to show that everybody suffers from this misfortune.

Q. What diseases are supposed to follow an absence of vitamines in food? F. T. P.

A. Scurvy, pellagra, and beriberi are three of the recognized diseases that are directly traceable to a lack of sufficient vitamines in food. Foods that are particularly rich in vitamines are fresh milk, butter, fresh fruit juices, yolks of eggs, meat juice, cereals and such vegetables as potatoes, spinach, onions, peas, cabbage, green corn, cauliflower, carrots, and lettuce.

Q. Did the ancient Romans have any knowledge of dentistry? B. C.

A. Records are incomplete, but it is known that the Romans used false teeth and possibly bridge work. The filling of teeth is of later date, a dental bibliography written in 1532 fixing the date of the introduction of this branch of the profession as about 900 A. D.

Q. Why are bran muffins considered healthful? S. H.

A. Bran, the dark, fibrous portion of the wheat, is less completely digested than the rest of the kernel. As bran is sold commercially it has some food value from the starch as well as from the minerals and vitamines associated with the fibrous parts, but it is used chiefly for its laxative properties. In moderate quantities, and especially as it comes ground up in graham flour, it is usually considered to be a desirable addition to the diet.

Q. Why do we see bright specks when going out into the sunshine? G. D. M.

A. The tiny specks we see before our eyes when gazing into a light space are known as floating specks, and are due to the shock given the optic nerve when the eyes are exposed to a bright or glaring light. These floating specks can be compared with the so-called stars a person sees when he receives a heavy blow on the head.

XXXVI

IMMIGRATION AND NATURALIZATION

Q. What has been the greatest number of people that have moved from one country to another in one year? J. H.

A. Probably the high point to such emigration was the removal of 338,452 inhabitants of Austria-Hungary to the United States in 1907.

Q. How many aliens enter this country surreptitiously? C. C. H.

A. It is estimated that the number runs from 100 to 1,000 a day.

Q. How long does it take to get the papers after filing final application for naturalization? T. D.

A. Final naturalization papers cannot be granted for 90 days after application has been filed.

Q. Does the fact that aliens are examined abroad lessen the number of aliens who are refused entry at the American ports? A. V. N.

A. At the port of New York in February, 1926, where 81 per cent of all the seaport arrivals were admitted, 15,379 foreigners applied for admission to this country and only 90 were turned back. Two-thirds of these rejections were on account of lack of proper visas under the immigration act of 1924 and represented largely stowaways and seamen seeking permanent admission to the United States. Less than two out of every thousand applicants at that port during this month who had secured proper visas from American consuls were found to be inadmissible.

Q. What is the name of the place where immigrants land at San Francisco? G. D.

A. The immigration station is Angel Island.

Q. I am an American-born citizen and wish to go to Italy to marry an Italian girl. What arrangements must I make to bring her to this country? J. G.

A. Before you go to Italy you should petition the Commissioner of Immigration, Washington, D. C., for a non-quota permit for your prospective wife. The Bureau of Immigration will approve this petition and send it to the State Department, which department will forward it to the American Consul. You should then go abroad and marry while in Italy. Then consult the American Consul there, producing evidence of your citizenship and of the marriage.

Q. If the immigration law was amended to admit Japanese to the United States on the same basis as Europeans, how many could come in? W. E. M.

A. The Japanese quota would be slightly above 100.

Q. Does Canada encourage immigration? C. H. S.

A. The Canadian Minister of the Interior says that Canada is going to be a keen competitor with all other countries of the world for immigrants.

Q. How much does it cost the Government to deport an alien? V. B.

A. The average per capita cost in deporting aliens is $80.55.

Q. Does a native born American woman lose her citizenship when marrying an alien? H. A.

A. Under the Naturalization Law passed September 22, 1922, an American woman does not lose her citizenship upon her marriage to a foreigner.

Q. If a foreigner becomes naturalized after his children have reached their majority do the children become citizens by virtue of their father's naturalization? E. C. L.

A. They do not. It will be necessary for them to take out naturalization papers if they wish to become citizens. If, on the other hand, the father of children born outside the United States becomes naturalized before the children are twenty-one years of age, those children automatically become citizens.

Q. Did all the Japanese and Chinese of Hawaii become Americans when the United States annexed Hawaii? R. B.

A. The Bureau of Naturalization says that only those Japanese and Chinese residents of Hawaii who were native-born, became citizens of the United States when it annexed Hawaii.

Q. Can a person who has the declaration of intention take civil service examinations? B. B.

A. The Civil Service Commission says a person who has filed his first papers must be within 90 days of getting his final papers, before he is eligible to civil service examinations.

Q. How long does a person have to live in England to become a British subject? H. H.

A. Regarding the length of time necessary for an alien to reside in the United Kingdom before he is eligible for citizenship, we quote the following: "During the eight years preceding his application he must have resided for not less than five years in His Majesty's domain, of which not less than one year immediately preceding the application must have been spent in the United Kingdom or have been for not less than five years in the service of the Crown."

Q. What countries are sending the greatest number of immigrants to the United States? L. C.

A. Mexico, Canada, Germany, Great Britain, and Ireland, in the order named, were the principal countries from which the immigrant aliens came in March, 1926, over three-fourths of the total immigration this month coming from these five countries.

Q. Some time previous to the World War a Syrian with his family removed from this city to his land of nativity; the children were born in this country; they are now desirous of returning. I will be glad if you will advise me what steps are necessary in order to permit them to return. B. L. McD.

A. The children of the Syrian are citizens of the United States as they were born in this country. The mother and father, however, would have to come as immigrants upon returning to the United States, meeting with all the immigration requirements.

Q. In what way does the immigration quota apply to Canadians? G. C. H.

A. The quota restrictions are not applicable to native-born Canadians. Persons born in other countries, who reside in Canada, are treated as citizens of their native land. Thus, naturalized Canadian citizens as well as those who emigrated from England to Canada, are, under the United States Immigration Act, subject to the quota restrictions applicable to the land of their birth.

Q. What country can now send

us the largest number of emigrants? M. F. B.

A. According to the new immigration quota 51,227 German immigrants are allowed to enter the United States annually. This is the largest number of immigrants allowed to enter the United States annually from any foreign country.

Q. Why does China have an immigration quota of 100 when no alien ineligible to citizenship can be admitted to the United States? R. L. S.

A. The Immigration Bureau says that the 100 quota may be applied only to white aliens born in China.

Q. When are immigration inspectors appointed? V. M. B.

A. Immigration inspectors are appointed as needed. These positions are under the Civil Service. Applicants should be between the ages of 18 and 55 years.

Q. Can a British subject residing in the District of Columbia become naturalized? R. T. J.

A. He can become a naturalized American citizen. He should make application in person at the Bureau of Naturalization, Department of Labor.

Q. In what quota are natives of the Island of Cyprus included for immigration purposes? S. D.

A. The Immigration Service says that the Island of Cyprus is included in "other Asia" in the quota for the different countries.

Q. If a foreigner comes over on a foreign ship as a seaman, can he get a job in a factory here? J. T.

A. The Bureau of Immigration says that a seaman may have 60 days in this country before he is considered a deserter from his ship and after that he is a subject for deportation.

Q. Can an American citizen arrange to have his old mother come to this country even if the quota is filled? A. Z.

A. The Bureau of Immigration says that an American citizen can petition for his aged mother to come into this country under the preference quota.

Q. Do most of the foreigners working in our mines take out citizenship papers? F. J. M.

A. The Coal Commission in its anthracite report states that less than half of the 78,000 miners of foreign birth in the anthracite fields have sought citizenship, although 68,000 of them have been in this country more than ten years.

Q. Could a person who is not a citizen of the United States be guilty of treason? R. E. G.

A. Although treason is popularly regarded as a breach of allegiance it is now well settled that an alien as well as a citizen may commit treason, since if domiciled in a country he owes it a local and temporary allegiance in return for the protection he receives.

Q. Is there any difference between being a citizen of the United States and being a citizen of one of the 48 states? F. H. W.

A. A court ruling says "there is a citizenship of the United States and a citizenship of a state which are distinct from each other and which depend upon different characteristics and circumstances in the individual." Citizenship in the state cannot be given to an alien, but a naturalized citizen becomes a citizen of the state wherein he resides. The Federal Government alone has the right to naturalize.

Q. May a private citizen accept a title from a foreign government? W. J.

A. There is nothing in the Constitution to prohibit a private citizen accepting a title of nobility, office, or present, from a foreign government. In order to receive

a title of nobility, however, it would be necessary to swear allegiance to the country making such grant. This would make necessary a renunciation of American citizenship.

Q. How long has there been a law that a person had to live in the United States for five years before he could become a citizen? W. A.

A. This law was passed on June 29, 1906.

Q. How can a foreigner who wants American citizenship prepare to meet the requirements? P. E. D.

A. The public schools are cooperating with the Bureau of Naturalization by establishing night schools for candidates for citizenship. An inquiry addressed to the Department of Labor, Washington, D. C., will start a person on the right road, or advising with the nearest Superintendent of Schools.

Q. Is it possible to be naturalized as an American citizen without subscribing to the oath of allegiance? C. D. J.

A. The Naturalization Bureau says that it is not possible for an alien to be naturalized without taking the oath of allegiance as this is part of the naturalization proceedings.

Q. How long can an American citizen reside in a foreign country without losing his citizenship? M. T. D.

A. A native born American citizen may reside in a foreign country for any length of time without losing his citizenship, provided, of course, he does not swear allegiance to another country. A naturalized citizen loses his citizenship if he resides for more than two years in his native country, or more than five years in any other country, unless he registers as an American citizen with an American consular agent.

Q. Is a person holding Declaration of Intention papers required to furnish a Certificate of Entry into this country? B. R.

A. In order to obtain full citizenship papers a person must be able to prove legal entry into the United States.

Q. If an American man married a foreigner, did he ever forfeit his citizenship? C. J. S.

A. An American man has never forfeited his American citizenship through his marriage to a foreign woman.

Q. Are people born in Alaska and the Philippines considered Americans? C. L. R.

A. People born in Alaska are considered American citizens while native Filipinos are not so considered unless their parents are American citizens.

Q. How long will it take to get citizenship papers in Canada? B. S. W.

A. The British Embassy says that a person must live in Canada for five years (not consecutive years) within a period of eight years before he can make application for Canadian citizenship.

Q. What nationality is a child born in the United States of parents in the diplomatic service of another country? J. B. G.

A. Such a child is a citizen of the country which its parents represent. The British Embassy in Washington, for instance, is legally British territory, and a child born there is born in Great Britain.

Q. Is a man born in Canada classed as a foreigner in the United States? M. P.

A. He is classed as a foreigner in this country.

Q. Why is it necessary for a man to have his wife in this country when he is naturalized? L. G.

A. The Naturalization Bureau states that there is no expressed

provision of law requiring a man's family to be in this country when he becomes naturalized, but the courts require it as evidence of an alien's intention to reside permanently in this country. Another reason is to avoid conflict with immigration laws. For example, if a man is naturalized while his family is abroad his wife would be entitled to admission to this country as an American citizen, even though she were inadmissible under the Immigration Laws. Therefore, it would be necessary for the wife to be here in order for a man to obtain final papers.

Q. I have lost my first papers. Can they be replaced? A. L.

A. If either first or second naturalization papers are lost they may be replaced by applying to the court issuing them.

Q. Is it necessary for an alien to live in one State to become a citizen of the United States, or is he permitted to move about? J. A. B.

A. An alien who desires to become a citizen of the United States is allowed to live in any State in the Union and not required to live in one particular State.

Q. Just what is meant by an American citizen? M. M. B.

A. The term American citizen in the United States is used in the same sense as in the ancient classical republics, that is, a citizen is a free governing member of the state, possessing full political and civil rights. An Attorney-General of the United States once defined the term as "a citizen of the United States without addition, and means neither more nor less than a member of the United States."

Q. Was it possible at one time for a boy coming to this country to take out first and second papers at the same time? T. K.

A. The Naturalization Bureau says that before 1906 an alien arriving in this country prior to his eighteenth birthday could take out first and second naturalization papers at the same time after obtaining his majority.

Q. Are children born of foreign parents who are residents of the United States considered citizens? J. B.

A. According to the Constitution of the United States all children born in the United States are American citizens regardless of the nationality of their parents and as such are entitled to the rights and privileges of American citizenship.

Q. Will an ex-soldier of the German Army be admitted to this country? This one wishes to make his home here. A. H. R.

A. In order to come to this country an ex-soldier of the German Army would have to obtain a passport from his government and have it visaed by the nearest American Consul. He must come within the quota law and must meet with the immigration requirements at the port of entry, passing mental and physical examinations. No guarantee can be given in advance by the Immigration Service that any immigrant will be admitted.

Q. On what census is the new immigration bill based? E. S.

A. The recent immigration bill limited the number of aliens who might be admitted from any country to two per cent of the number of people from that country resident in U. S. A. according to the 1890 census.

Q. How are immigrants treated for lice? What class of travelers are considered immigrants? B. L. M.

A. Only third class passengers are required to go to Ellis Island. The Public Health Service says that immigrants coming into Ellis Island are deloused by the following method: First clothing is

steamed by submitting to steam under pressure. Those articles that cannot undergo this treatment are subjected to dry heat. The patients are then treated with mixtures which kill the parasites. Vinegar and gasoline and various other solutions are used for this purpose, care being taken not to burn the patient. In many cases the heads of the immigrants are shaved.

Q. In the test given immigrants, is it necessary that they be able to read and write English? L. D.

A. It is merely stipulated that immigrants read and write a certain amount of some language, not necessarily English.

Q. How long have records of immigration been kept in this country? H. H.

A. Records of immigration to the United States begin in 1820. For the period before that time, the chief sources of information are newspaper allusions to the arrival of vessels bringing immigrants. "Foreigners" were those who spoke a language other than English. The fluctuation in immigration is considerable. Economic conditions in European countries and also in the United States influence it considerably. Nothing was done in the way of legislation either to promote or restrict immigration into the United States until the year 1864.

Q. How many Germans, French, Italians, Irish, and English have emigrated to America? V. J. D.

A. Alien arrivals previous to July 1, 1898, were not reported by race or people. Since that time, up to July 1, 1925, the total number of Germans admitted was 1,370,-829; French, 438,484; Italians, 3,828,282; Irish, 851,423; English, 1,118,239.

Q. What is the position of an alien in this country on taking out first American papers; is he considered American or does he retain his own nationality until such time as he takes out the second paper? S. T. W.

A. An alien is not considered an American citizen until he has received his final naturalization papers. First papers are merely a declaration of intention.

Q. We have some British friends visiting us who have decided to stay here. What steps are necessary? A. S.

A. Aliens from abroad admitted as visitors can in no circumstances be allowed to remain permanently. Aliens who remain here for a longer period than that for which they are admitted are violating the immigration laws and are subject to arrest and deportation.

Q. How many immigrants have come to this country and when was immigration largest? F. A.

A. No trustworthy immigration records were kept in the early history of the republic. From 1783 it is estimated that the number of immigrants to this country was about 4,000 a year until 1794, when the number was increased to 10,000. Then it dropped to about 6,000 until 1806, when it was reduced to practically nothing for the succeeding 10 years. In 1816 it was about 8,000 and the next year, 22,240. From October 1, 1819, a record has been kept, but up until 1856 it included all "alien passengers arrived" and did not distinguish between immigrants and passengers, nor did it include immigration overland from Canada and Mexico. This record, which is inaccurate as explained, shows a total of 33,630,-104 from the year ending September 30, 1820, to the year ending June 30, 1920. The largest immigration in any one year was 1,285,-349 for the fiscal year 1907.

Q. When a British citizen becomes naturalized in the United States is his former country notified? A. F. N.

A. His native country is not notified.

XXXVII

INSECTS

Q. How far does a bee travel to gather a pound of honey? B. F. B.

A. It has been estimated that a bee travels 43,776 miles to gather one pound of honey, consisting of 29,184 drops.

Q. How fast do the wings of a fly move? R. L. G.

A. It has been calculated that a fly makes 330 wing strokes a second; a bee, 240; wasp, 110; dragonfly, 28; and butterfly, 8.

Q. What insect is it that has only one pair of eyes, yet can see both above and below? K. T. C.

A. This characteristic is found in some of the aquatic Whirligig Beetles. These insects have one pair of eyes, so divided that half of the eye is directed up to keep a lookout for danger from above, while the other half is scanning the water in search of prey.

Q. Is it true that there are spiders that kill and eat birds? D. W.

A. There is a species of trapdoor spider, native of India, Australia, Africa, and South America, that will actually kill small birds and suck their blood. It is the largest of all spiders.

Q. How long does a fly live? A. R. W.

A. The Pasteur Institute has made experiments that reveal the fact that the longest life of a fly is about 62 days. It takes three generations to span the winter months, and some form of meat or animal food is necessary, since flies feeding on sugar alone never lay eggs.

Q. Do fleas have wings? N. H. C.

A. The flea is a small wingless insect. There are about 100 species known, of which one-third are American.

Q. What do fireflies do aside from making our summer evenings beautiful? K. C. G.

A. Fireflies have no particular value, but do devour snails and the larvae of insects.

Q. Who discovered that fleas could be trained? J. H.

A. Training fleas is the hobby of Prof. J. C. Ruhl of New York. Fleas can be trained to dance, draw chariots, throw objects many times their own weight, etc. The first trained fleas were exhibited by Prof. Ruhl's grandfather in 1821.

Q. How many weevils attack grain? F. C. S.

A. Of the four true weevils that attack grain in the United States only two are of primary importance at present: the granary weevil and the rice or black weevil.

Q. How does the cricket produce the sound known as chirping? B. B.

A. It is produced by rubbing a file-like ridge of one wing over a scraping surface of the other. Only the males have these organs and it is generally agreed that the sound serves to call their mates.

Q. Is it true that ants kill cows? N. N.

A. There is a solitary ant or mutillid of Texas known as the cow-killer ant. It is ignorantly thought to sting cattle to death.

Q. Are centipedes poisonous that are seen in houses occasionally? S. H.

A. Centipedes of the Temperate Zone are harmless, and should not be exterminated if roaches are a menace, since centipedes destroy them.

Q. How does it happen that some of the common house cockroaches are white? E. G.

A. Albino cockroaches are found occasionally. They are freaks of nature just as albinos are freaks in the human race.

Q. How many cedar shavings or mothballs should be put in a trunk to keep out moths? O. S. A.

A. About two quarts of cedar shavings or two pounds of mothballs are required in an ordinary-sized trunk, or small closet, to keep out moths, etc.

Q. What do daddy-long-legs eat? L. M.

A. The name is usually applied to so-called harvest spiders, which feed on tender rootlets of grasses and grains.

Q. What can be used to destroy ants hills in a yard? J. R. B.

A. To rid a lawn of ants drill several holes in each ant hill with a stick. Pour into each hole a small quantity of carbon bisulphide. Cover the whole nest with canvass until the fumes have killed the ants. It will take about two ounces of material to each ant hill.

Q. Will weevils in one kind of cereal spread to other cereals? S. T.

A. One weevily food will contaminate another. Particularly in warm weather, cereals and flours should be bought in small quantities and used promptly.

Q. Why are butterflies so-called? I. J. J.

A. The origin of the term butterfly is probably due to the popular belief that these insects steal butter and milk.

Q. How much honey does a swarm of bees produce in a year? H. L. D.

A. The average bee hive yields about 17 pounds of honey yearly.

Q. How long do ants live? A. I. M.

A. Male ants live but a short time in the adult state. The workers exist only a few months. The average life of a queen is not more than 12 months, although queen ants have been known to live six or seven years.

Q. Does the boll weevil ever deposit eggs in anything except cotton? G. L. S.

A. Occasionally it will breed in a wild plant called mallow.

Q. Has an estimate been made on the amount of damage done by rodent pests in the United States? P. T. D.

A. Such statistics were compiled several years ago when it was estimated that the loss from rodent pests was $300,000,000 annually.

Q. A list of Mexican exports itemizes flies. What are they used for? A. J.

A. The Mexican Embassy says the flies referred to in your letter are used for bird food. These flies as a rule are dried.

Q. Do male mosquitoes bite and do they bite more than once? E. A. P.

A. The female mosquitoes are the only ones which bite because of the fact that the mouth of the male mosquito is not equipped to enable it to suck blood. Mosquitoes, con-

trary to the popular belief, do bite more than once.

Q. Do flies ever cause blindness? C. H. G.

A. The prevalence of blindness in Egypt is probably traceable to the fact that the fly is sacred in that country. It is said that a mother will not kill a fly nor even brush it from the eyelid of her child. Infection is often carried from one child to another, and in the case of diseased eyes, the malady is spread in this manner.

Q. How long has Paris green been used to kill potato bugs? I. L. O.

A. Paris green is said to have been first used to destroy the potato pest in 1867 in Michigan.

Q. How long do honey bees, drones, and queen bees live? J. J. B.

A. Working bees and drones are supposed to live from one to nine months, while the life of the queen bee is rarely more than three years.

Q. Is the boll weevil as great a menace as the ravages of the insects which afflicted the Egyptians in the olden days? D. S.

A. Government authorities are convinced that the boll weevil is a pest of a great magnitude as any which afflicted the Egyptians. Some authorities claim that it has disturbed our economic situation more than any other single factor in our history.

Q. Will moths eat through rubber, that is, a very thin layer of rubber upon a wool backing? A. B. M.

A. Moths will occasionally eat through a very thin layer of rubber.

Q. Did other countries try to eliminate cooties during the War? J. R. E.

A. France, England and Germany spent much time and energy on the elimination of lice, since they were found to be carriers of typhus and trench fever. Delousing stations had been established and conditions greatly improved before American troops crossed the ocean.

Q. How do fireflies produce light? B. B.

A. The firefly produces light practically without loss of heat or chemical rays, but little is really known concerning the method of this production. The seat of the light is the luminous area situated in the abdomen. It is a specialized portion of the fat body, being a plate consisting of polygonal cells, located under the integument, and supplied with nerves and fine tracheal branches. These cells secrete, under the control of the nervous system, a substance which is burned during the appearance of light; this combustion takes place by means of the oxygen conveyed to the cells by the tracheae, which branch profusely in it and break up into capillaries.

Q. Do the weevils in cereals, flour and oatmeal develop into moths which destroy clothing? E. P. B.

A. Cereal weevils do not develop in clothes moths.

Q. Why do mosquitoes seem to buzz the most when near the ears? J. W. D.

A. Mosquitoes buzz the entire time that they are flying, but the sound is so faint as a rule that it cannot be heard until it reaches the vicinity of the ear.

Q. Please tell me what is good for jigger bites? O. G. J.

A. The Public Health Service says that as this insect bores its way directly into the skin, it is necessary to dig the insect out with a needle which has previously been sterilized by passing through a

flame. After exposure to jiggers the body should be well lathered and washed. This often prevents further trouble.

Q. To settle a bet, tell me whether cockroaches can fly? A. T. E.

A. The Biological Survey says a fully matured cockroach develops wings so that it can fly. Such roaches, however, are seldom seen indoors.

Q. Do naturalists give any explanation for the brilliant colors of butterflies? S. W.

A. The colors of a great many living things including a considerable percentage of American butterflies, have been commonly explained by theory of warning colors. According to this theory animals which were for any reason not edible by birds and mammals have developed striking combinations of color such as black and yellow, red and black, and black and white.

Q. Please list the following in order of the violence of their stings: hornet, wasp, honey bee, and yellow jacket. T. L. O.

A. The sting of the hornet is most violent. More poison is injected into the wound than in the case of the other insects. The yellow jacket, wasp and honey bee follow in the order named. Only the honey bee dies after the act of stinging. Death is not instantaneous but occurs within a day or two.

Q. Does the blood of insects circulate in the same way as that of a human being? J. H.

A. The blood of an insect does not circulate through a system of closed blood tubes as in man, but instead it more or less completely fills that part of the body cavity which is not filled with other organs. Oxygen is thus brought in contact with the blood by means of the tracheae. Insects have the most powerful muscles of any animals of their size. Relatively, an enormous amount of energy is released during the jumping or flying of a grasshopper. The tracheae pass directly into the muscles and other tissues. Here oxygen is passed into the tissues, and oxidation takes place when work is done.

Q. What holds a fly when it walks on a ceiling? M. S.

A. The feet of a fly form a vacuum, which enables this insect to hold itself on a perfectly flat surface.

Q. Are gnats and mosquitoes the same thing? C. G.

A. In England the term gnat is used for the insect that Americans call a mosquito. Here the term is used only for smaller insects. A gnat is a blood-sucking dipterous fly, undergoing a metamorphosis in water. The females have a proboscis armed with needle-like organs for penetrating the skin of animals.

Q. Is there a golden-eyed fly? E. K.

A. There is a lace-winged fly of the Chrysopidae family known by this name because in some lights the eye seems the color of burnished gold.

Q. Do weevils develop from a germ inside of seed? G. L. C.

A. Such an idea is erroneous. The small round holes observed in seed are made by the grubs of the weevils. The eggs are laid in or on the pod, and the grubs when hatched gnaw tiny holes in the seed and burrow in. When they emerge they are adults.

Q. What do butterflies and bees eat? M. C.

A. Butterflies feed on the nectar of flowers and the sap of trees and plants. The various flowers, etc., vary with those found in a locality. All adult bees feed on saccharine juices, particularly the nectar of

flowers. It is the habit of bees to devote their searching to a single sort of flower as long as it serves their purpose, each individual visiting blossom after blossom of that kind, instead of searching flowers indiscriminately. This varies with the locality.

Q. Of what does a bee colony consist? T. F.

A. Normally, a colony consists of one queen bee, the mother of the colony; thousands of undeveloped females called workers, which normally lay no eggs but build the comb, gather stores, clean the hive and feed the young and do other work. During part of the year, there are also present some hundreds of males or drones whose only service is to mate with young queens.

Q. Do flies have diseases? M. R. H.

A. There are a number of parasites which are probably annoying to flies but not especially destructive and there are also certain mites which attach themselves to these insects for migratory purposes. Worms of several species invade their internal organs. Adult flies are subject to at least one disease which makes serious inroads upon this insect population.

Q. Do mosquitoes breed anywhere except in swamps and marshes? P. T. O.

A. Mosquitoes will breed even in a little rain water in an old tin can or in an undrained roof gutter.

Q. Do fleas leave a dog when he becomes sick? W. H. S.

A. It is not true that when a dog is in ill health fleas leave it, although fleas are known to leave dead animals.

Q. Why is a spider's web called a cob web? J. W. H.

A. The old Dutch word for spider was cop, so with a slight change it has become cob in English.

Q. Do bees think? H. C.

A. Among the higher invertebrates—the ants, bees, wasps, and other social insects—there is a complex behavior which has been interpreted by some to imply a consciousness comparable with that of man. Others have emphasized the instinctive character of the activities of these animals and have been content to consider the higher insects as mere automata. The insects represent a line of development divergent from the course of evolution that has culminated in man, and it is difficult to compare the insect mind with human consciousness. Either the performances of bees and ants are largely reflex or must be attributed to a very complex affective consciousness.

Q. What is the real name of the kissing bug and how long ago was the excitement over the insect? J. L.

A. About 27 years ago—during the summers of 1898 and 1899, the newspapers featured stories about kissing bugs. These were species of the family Reduviidae, with the common name of cone-nose. In the Southern United States they are called giant bedbugs. They resemble bedbugs in being fierce biters and bloodsuckers, and have the added advantage of wings. To be said in their favor, however, is the fact that they prey upon bedbugs and roaches.

Q. How many different species of insects are there in the National Museum? J. F. N.

A. At the last count, there were 120,000 species of insects represented in the Division of Insects, New National Museum. The total number of specimens of all kinds amounted to 2,325,000.

Q. Who said that the brain of an ant is the most marvellous thing in the world? F. C. S.

A. This version of the statement is incorrect. Darwin called

the pinhead brain of the ant the most marvellous atom of matter in the world. This is criticised by modern scientists who say that the human ovum is more marvellous still.

Q. Are both the male and female of the species given the name lightning bug? W. C. K.

A. Only the adult males are called lightning bugs. The females are wingless and, like the larvae, are called glowworms.

Q. What is a social wasp? H. R.

A. Social wasps are those that live in colonies and are all paper-makers. Their nests are sometimes of large size and shelter a great many individuals.

Q. Will moths eat woolen clothing if it is perfectly clean when put away? M. P. C.

A. Moths will eat woolen goods that are clean, but if there are stains or spots, these are attacked first.

Q. What is the sound made by crickets and locusts called? H. M. M.

A. The song or noise made by crickets and like insects is known as stridulation.

Q. What is the best method of killing grasshoppers? W. W. T.

A. The Department of Agriculture has completed a film which shows the various methods which it advocates. Poison bait, with thorough plowing and harrowing of fields to destroy eggs is best, but hopper catchers and large flocks of turkeys are helpful.

Q. Is there such a thing as a domestic insect? N. T.

A. The honey bee is classified as a domestic insect, and is the only one so known.

Q. How can I rid the basement of crickets? P. J. M.

A. The Department of Agriculture suggests a mash of bran or sawdust with a little molasses added to attract and arsenic added for poisoning. Place where the insects gather.

Q. Do locusts lay their eggs on berries and fruits, thereby poisoning them? H. H. D.

A. Locusts bore into the branches to lay eggs. Fruit is not poisoned in this manner.

Q. Why was a monument erected to the destructive boll weevil? L. R. F.

A. The citizens of Enterprise, Alabama, erected a drinking fountain in the center of the town as a memorial to the fact that after the boll weevil destroyed their cotton crops, they changed to other crops which brought them greater prosperity.

Q. Can a caterpillar sting? M. E. R.

A. The caterpillar does sting and it is found that its nettling hairs may be blown through the air, lodge on a person and produce a rash. This accounts for the stings people often receive when there has been no contact with caterpillars.

Q. How big do locusts grow to be? S. T. S.

A. In certain parts of Africa, the locusts attain a length of four inches and feed on mice.

Q. Is it true that some flowers attract bees by their color? F. P.

A. The supposition is that bees are attracted to flowers primarily by their odor, but the color does have a certain attraction. Blue, for instance, will attract bees most readily.

Q. Where do electric light bugs come from? S. S.

A. Electric light bugs are water bugs, the correct name of which is fish-killers. They come out of

the water in early summer and fly in swarms at night, gathering about lights, and in some places so thronging the street lamps that they have become known as electric light bugs.

Q. Can potato bugs and bed bugs fly? C. G. L.

A. Potato bugs can fly; bed bugs cannot.

Q. Is the daddy-long-legs a fly or a spider? M. L.

A. In America the name is applied to the harvest-spider, a harmless insect having legs containing more than fifty joints each. In England, however, daddy-long-legs is applied to the crane fly, a true fly having legs.

Q. Is the cotton boll weevil a menace of comparatively recent times? S. S. H.

A. It was originally Mexican, having been found around Monclova, State of Coahuila, Mexico, where as early as 1856 to 1862 it did such damage to cotton that cotton growing there was abandoned. In 1885, the boll weevil crossed the Texas border into the United States. It encroached steadily from year to year until, in 1922, it infested practically the entire cotton-growing region of the United States. The only extensive uninfested territory lies in West and Northwest Texas.

Q. Are there any flies as far north as Alaska? B. B.

A. Dr. John Aldrich of the National Museum says that there are no houseflies in Alaska. He found plenty of horseflies everywhere, but no houseflies. The common fly is by origin a tropical insect and cannot endure cold weather. Even in our northern States only a few houseflies survive the winter. Mosquitoes, however, are a common pest in Alaska. Dr. Aldrich found two species there previously unknown to entomologists.

Q. What was used for mosquitoes when the Panama Canal was built? H. W. S.

A. The Public Health Service says that kerosene is usually the repellant used by Government officials and employees in tropical and semi-tropical zones against mosquitoes. A small portion of oil is dropped on the exposed parts of the body. Oil of citronella, pennyroyal and lavendar have also been found effective in some cases.

Q. Can bees tell when it is going to rain? W. P.

A. Bees are remarkable weather prophets. At the approach of a storm, bees will drop their business of gathering honey and make a bee-line for home.

Q. What plants do the Japanese beetle attack? D. A.

A. The most important economic crops attacked by the beetle are apples, quince, peach, sweet cherry, plum, grape, blackberry, clover, soy bean, and corn. The shade trees affected include linden, birch, oak, elm, sassafras, horse chestnut, and willow. The beetle also feeds on ornamental shrubs, particularly althaea and rose, flowers of all kinds, and weeds of many varieties. The grubs are quite injurious to lawns, golf courses, and soil in general.

Q. What kind of bugs are the largest? H. T. R.

A. Fish killers are the largest of existing bugs, sometimes reaching a length of four inches. They breed and develop in water, but live at least part of the time on land.

Q. What is a dew worm? J. H.

A. It is the British term for earth worm.

Q. Am interested in the bee business and want to sow a lot of mustard. Will the mustard bloom injure the flavor of honey? J. A. K.

A. It will not. Mustard is listed among the honey-producing plants.

Q. How can I get rid of tiny red ants in the kitchen? A peculiar thing about them is that they don't seem to get into anything but greasy foods like bacon, lard, etc. K. F.

A. Ants that infest houses are frequently divided into two classes —those that like sweets and those that like grease, the latter being the kind that is annoying you at present. The grease-eating species may be controlled by working a small amount of tartar emetic into bacon rind, or by using one part tartar emetic to 20 parts of grease. Tartar emetic is a violent poison, so extreme care should be exercised in its use.

Q. Carpenter bees are eating a well house so that it is crumbling away. Will anything stop them? R. A. V.

A. If the woodwork is painted with creosote, this insect will not attack it.

Q. How fast can a worm travel? P. O. B.

A. There are no recognized established records, but an army worm has been known to cross an 80-acre field, a distance of one-fourth of a mile, in 24 hours.

Q. Will the corn borer live on any other food than corn? K. F. L.

A. This pest, which was brought to this country from central Europe or Asia, seems to be able to subsist upon all herbaceous plants and has already been recorded as feeding upon no less than 167 kinds of plants in this country.

Q. What is a vinegar roon? E. C.

A. A vinegar roon is defined as a whip scorpion, especially a large Mexican species (Thelyphonus giganteus) popularly supposed to be very venomous; so-called from the odor that it emits when alarmed.

Q. How many eggs does a queen bee lay? T. J. L.

A. About 2,000 a day.

Q. Are tobacco, pepper, or hellebore good preventives for clothes-moths? C. T. C.

A. The following substances often recommended for clothes-moth control are worthless: tobacco extracts, lavender flowers, cayenne pepper, allspice, angelica root, black pepper, pyrethum stems, air-slaked lime, powdered sulphur, salt, quassia chips, borax, colocynth pulp, eucalyptus leaves, white hellebore, formaldehyde, sodium bicarbonate, sodium carbonate, lead carbonate, lead oxid, red cedar leaves.

Q. How many kinds of lizards are there? F. O. T.

A. Hoffman says that there are 434 genera and 1,925 species. They inhabit all parts of the world except the cold temperate and frigid zones.

Q. Are mosquitoes attracted to certain colors? R. F. D.

A. Mosquitoes in the house are apt to take refuge behind objects and are cunning enough to settle on dark wood rather than light. It is said that they are attracted to black clothing rather than grey or light brown, and that they prefer dark blue and violet to yellow and red.

Q. Why are moths and millers attracted by a light? F. L.

A. Scientists have never been able to ascertain why moths and millers are attracted by a light. This is doubly hard to understand because of the fact that these insects hide themselves away from the light during the daytime and seem to be attracted only by artificial light.

XXXVIII

LABOR

Q. How many ways are there to make a living? F. A. H.

A. The census lists 667 specified occupations, but it does not state that there are no other ways of making a living.

Q. What eight occupations employ the most people in this country? J. H. E.

A. Farming claims the most workers. Then workers are listed in regard to number as clerks, servants, salesmen and saleswomen, carpenters, machinists, teachers, and coal mine operatives.

Q. In which occupation are the most people engaged? T. E. B.

A. One half the workers of the world are engaged in agriculture. According to figures from the Department of Agriculture, of all occupied men and boys in 23 leading countries 51.4 per cent are engaged in agriculture, and of all occupied women and girls 50.6.

Q. If all labor-saving machinery in the United States were abolished what number of men would be required to supply the deficit? H. F. D.

A. According to a recent report in the book, American Resources, by Gilbert and Pogue, published by the Government Printing Office, the estimate is made that the work of 3,000,000,000 hard driven unskilled laborers would be necessary to replace the work done by machinery.

Q. When was industrial arbitration first resorted to in the settlement of labor disputes? N. O. H.

A. The first definite provision of this sort for the settlement of industrial disputes seems to have been the tribunal established before the French Revolution at Lyons, France, for the settlement of controversies in the silk industry. Though this tribunal was abolished in 1791, it had proved so effective that Napoleon, in 1806, created councils of experts having similar functions.

Q. How long is the standard working day in Germany? M. R. F.

A. The eight-hour working day was provided for in Germany by regulations of 1918 and 1919. Under the Emergency Powers Act of 1923, a Federal order was issued January 1, 1924, making a number of exceptions to the eight-hour regulations. This caused considerable disturbance and much protest on the part of the unions.

Q. How many aliens foreign-born and unnaturalized, belong to labor unions in the United States, or is it required that members be citizens? E. H.

A. The American Federation of Labor says there are no statistics compiled showing the number of aliens that are members of labor organizations in the United States. Some local unions require that members be citizens.

Q. What is meant by labor turnover? K. D.

A. Labor turnover is the number of workers employed during a stated period in order to maintain a force of a given number.

Thus if, for a year, it is necessary to hire 2,000 to keep a regular force of 1,000, the turnover is 100 per cent for that period.

Q. In the anthracite strike of 1902 Baer, the leader of the operators, was known as Divine Rights Baer. Can you tell me what it was he said that led to his being given that name? O. C.

A. George F. Baer was known as Divine Rights Baer because of a statement in which he said: "The rights and interests of the laboring man will be protected and cared for—not by the labor agitators, but by the Christian men to whom God in his infinite wisdom has given the control of the property interests of the country."

Q. Is there any product in the manufacture of which labor and materials are not the principal item? G. R. H.

A. The largest item of expense in the artificial ice industry is neither labor nor raw materials, as in most other manufactures, as the material being water costs little and the machinery does the work. The big item of expense is coal, with which to produce the heat to expand the steam and run the compressor ice-machine.

Q. What was the first organization of employers in this country? J. M. K.

A. The first employers' association of national importance which was formed to bargain or deal with workers was the United States Potters' Association, organized in 1875. The Stove Founders' Association formed in 1886 stimulated the organization of similar groups.

Q. Did the Haymarket Riot grow out of a labor strike? E. K. L.

A. The Haymarket Riot was an anarchistic demonstration, the anarchists having taken advantage of labor troubles in Chicago to denounce the efforts for shorter hours and better wages as tending merely to aggravate capitalistic slavery and to urge instead the general seizure of property and the murder of its owners.

Q. Has the American Federation of Labor decided to form a Labor Party? J. K. P.

A. At a convention of the American Federation of Labor, held in Portland, Oregon, the proposal to form a Labor party was voted down, 25,086 to 1,895.

Q. Were there many strikes in this country during the recent war? A. C. F.

A. The official records of the Department of Labor show that there were 6,205 strikes and lockouts in the United States during the period extending from our entrance into the war until the signing of the armistice. It is claimed, however, that none of these strikes or lockouts lasted long enough or was serious enough to handicap our forces in France.

Q. How long has the labor movement been a factor in politics? L. T.

A. It made its appearance in England about 100 years ago. Gladstone said that, "The labor question may be said to have come into public view simultaneously with the repeal of the Combination Laws."

Q. Why is there trouble in enforcing the decisions of the Railroad Labor Board? R. C. R.

A. The Transportation Act of 1920, as the law is officially designated, gives the Railroad Labor Board no power whatever to enforce its decisions. Section 313 reads: "The Labor Board, in case it has reason to believe that any decision of the Labor Board or of an Adjustment Board is violated by any carrier, or employee, or subordinate official, or organization thereof, may upon its own motion after due notice and hearing to all persons directly in-

terested in such violation, determine whether in its opinion such violation has occurred and make public its decision in such manner as it may determine." Neither party to a case before the Board is required to agree to accept and to abide by the Board's decision. Consequently it is clear that it was never contemplated by those who framed the law that the Board should enforce its decisions. There is perhaps a moral or implied obligation on the part of those who appeal to the Board to accept its rulings, whatever they may be, but those who disregard this obligation suffer no penalty other than a possible adverse public sentiment.

Q. Did the custom of labor parades originate in the United States? C. H.

A. The custom of having labor parades on certain days existed for many centuries, even before the discovery of America. It was the custom for the different guilds of craftsmen to parade the streets of London on various occasions.

Q. How do the farm wages of 1875 and 1920 compare? O. E. F.

A. In 1875 farm wages with board averaged $12.72 per month, without board, $19.87, as compared to $46.89 with, and $64.95 without board in 1920.

Q. What are tonnage men? L. B. B.

A. In the steel industry workers who are paid on a piecework basis are known as tonnage men.

Q. What sort of wages did labor receive in early colonial days in this country? P. T. D.

A. The rate for skilled labor in Plymouth Colony in 1630 was sixteen pence per day. In 1633 master carpenters, sawyers, joiners, etc., were forbidden a wage in excess of two shillings per day, if they boarded themselves, or fourteen pence, if boarded by their employers.

Q. What wages are paid to stonesetters, masons, and plasterers at the present time? D. A. R.

A. The Building Trades Employers' Assocoation of New York City shows the wage scale in effect there in 1926 as follows: Plasterers, $14 per day wage scale effective May 1; stonemasons, $14 per day wage scale effective March 8; stonesetters $14 per day wage scale effective April 1.

Q. Were there state labor bureaus before the national department was created? W. T. S.

A. Massachusetts created the first bureau of labor in 1869. Congress followed with the creation of the National Bureau of Labor in 1884, the Department of Commerce and Labor in 1903 and the Department of Labor in 1913.

Q. When was the first eight-hour strike? E. E. K.

A. In April and May of 1866 there was a strike of six weeks in New England and New York for the eight-hour day, believed to have been the first of its kind in the United States. It was unsuccessful. The first great concerted effort for the eight-hour day was in 1886 when 200,000 workers went on strike. In 1890 a general strike was announced for this object, but was only partially successful.

Q. Is there any way of estimating the number of women in this country who do laundry work for a living? I. W. T.

A. Census figures for 1920 show 120,715 wash women employed in laundries and 396,756 not in laundries.

Q. What nationality is Ramsay McDonald, the labor leader of England? A. P. S.

A. Ramsay McDonald, the new Premier of Great Britain, is Scotch by birth.

Q. To what degree is farm labor in this country more efficient today

than it was 40 or 50 years ago? A. W. G.

A. Comparisons in the statistics of crops show that in the last half century the American farmers' potential efficiency has been increased 2,000 per cent by the saving in labor time. For example, a quantity of grain may be sown today in 33 minutes that formerly required 10 hours and 36 minutes and a job of harvesting done in 1 hour that would have taken 46 hours and 40 minutes in the old days.

Q. What is meant by a saving wage? S. K. P.

A. Secretary of Labor Davis in a wage discussion, distinguished a saving wage from a living wage by stating that it is a wage which assures the worker a margin over and above the amount required for his and his family's subsistence in health and reasonable comfort.

Q. Is Justice Holmes of the Supreme Court regarded as friendly to labor? P. K.

A. As Chief Justice of the Massachusetts Supreme Court Mr. Holmes handed down several decisions that were friendly to organized labor, his position being that working men had a right to combine and to "support their interests by arguments, persuasion, and the bestowal or refusal of those advantages which they otherwise lawfully control, so long as they do no violence or threaten no violence."

Q. What was the first law regulating the hours of labor? C. L. P.

A. Massachusetts was the first state to undertake to limit the hours of labor, passing a law in 1842 that made 10 hours a working day in factories for children under 12 years of age. In 1847 the law was extended to women.

Q. When did the labor movement for shorter hours start in this country? J. P. M.

A. Agitation for a shorter work-day, stated concretely as a demand for a ten-hour day instead of the dawn-to-dark day, was begun in the United States in 1830.

Q. What are the laws of England with respect to labor unions and strikes? R. G.

A. Unions were legalized in England in 1824-25. In 1871 the Trade Union Act was passed which declared unions not to be illegal combinations in restraint of trade. This was followed in 1875 by the Conspiracy and Protection of Property Act which freed labor from conspiracy laws in their criminal aspects and gave some protection to union funds. In 1906 the Trade Disputes Act exempted unions from civil conspiracy laws and from responsibility for damages as a result of acts committed by laborers. Peaceful picketing, strikes, boycotts and blacklists were made legal.

Q. When was there an industrial revolution in England and the United States? K. R.

A. The industrial revolution may be described as a transformation in the economic life of England in the latter part of the 18th century and the early part of the 19th. It was characterized by a change from a domestic system in industry to a factory system, this being the result of great mechanical inventions. Industry shifted from the rural towns to the large cities where labor was concentrated in the factories. The population of England increased 43 per cent at this time. In the United States the transformation from a low order of industrial organization to a higher order did not begin until the first half of the 19th century and its full effects were not felt until the second decade after the Civil War.

Q. Have troops ever been called out in labor troubles in Maryland? R. L.

A. In the railroad strike in 1877 in Maryland there was such rioting that the National Guard was called out and later the assistance of Federal soldiers was requested. Again in 1894 the National Guard was called out to preserve order in consequence of a miners' strike in Allegheny county.

Q. What is the difference between skilled and unskilled laborers? G. A. C.

A. Skilled laborers are those requiring such training in a particular occuption as would involve material industrial loss in a transference to other occupations. Any laborers who do not have to serve an apprenticeship to learn a trade are unskilled laborers.

Q. What is the wage standard sought by organized women? T. J. G.

A. The principle of wage determination approved by the Director of the Woman's Bureau of the Department of Labor, Miss Mary Anderson, is "wages should be established on the basis of occupation and not on the basis of sex or race."

Q. What industry employs most men in France? H. N. J.

A. The various textile industries afford employment to the largest number of workers, and next in order comes the coal mining industry.

Q. What is a jurisdictional dispute between labor unions?

A. A union has or claims jurisdiction over all work of a certain kind, over all workers of a certain classification, or over all workers in a given geographical area, and when the claims of two unions in any of these respects conflict, what is termed jurisdictional dispute ensues.

Q. When did employers in this country first make a contract with organized labor? J. H. D.

A. Probably the first agreement of this kind was made in 1886 between newspaper publishers and the typographical unions in Chicago and Washington. Both of these cities claim the honor of being first.

Q. How many people are employed in Marshall Field's in Chicago? A. G.

A. The Marshall Field Company says that the number of employees varies with the season. For instance, during December the pay roll is between 14,000 and 15,000 while in February it runs from 9,000 to 10,000.

Q. Wasn't the Homestead Strike in reality a lockout? R. H. C.

A. In the famous Homestead controversy a strike was ordered for July 3, 1892, but when the management of the steel works learned of this and after H. C. Frick had been burned in effigy, the plant was shut down on July 1. Technically it may be said to have been both a strike and a lockout. The strike was not officially called off until November 20, 1892, but the works had been in operation with new men long before that date.

Q. When were public employment agencies first established? H.

A. The first governmental employment bureau originated in France. In 1843 one such bureau was established in each of the mairies of Paris. The first agency of the kind in England was opened in 1885, and the first in this country in Ohio five years later.

Q. How many employees has the United States Steel Corporation? T. J. G.

A. The average number of employees of the United States Steel Corporation is 268,710.

Q. How much leave do District employees get? J. B.

A. The Disbursing Officer of the District of Columbia says persons on the statutory pay roll have 30

days annual leave; per diem employees have 15 days annual leave.

Q. When was the American Federation of Labor formed? J. C.

A. The Federation of Labor originated in an attempt to found a general organization of American workingmen on a trade-union basis. A preliminary convention was called by the Knights of Industry and the Amalgamated Labor Union, and met in Terre Haute, Indiana, August 2, 1881. At the convention at Pittsburgh, November, 1881, the name of the Federation of Organized Trades and Labor Unions of the United States and Canada was adopted. This federation merged itself with an independent trade-union congress held at Columbus, Ohio, December 6, 1886, when the present name and organization were adopted.

Q. When was the English Labor party formed? M. H. A.

A. The Independent Labor party was organized in England in 1893. There have been labor Members of Parliament, however, continuously since 1874, when Thomas Burt, the Northumberland miner, was elected.

Q. How many wage-earners are there in the United States, and what are the proportions at different ages? N. A. L.

A. According to the census of 1920 there were in that year 41,614,248 wage-earners 10 years and over. Of these 33,064,737 were males and 8,549,511 were females. About one-tenth of the men were under 20 years, as compared with one-fifth of the women. One-eighth of the men were between 20 and 24 years as compared with one-fifth of the women. Nearly half of the men at work were in the 25 to 44 year group, as compared with two-fifths of the women. One-third of the men were more than 44 years old, as compared with one-sixth of the women.

Q. When were union labels first used? M. A. A.

A. The union label originated in 1896 with the cigarmakers of San Francisco in their conflict with Chinese labor.

Q. What is the Iron Law of Wages? L. L. T.

A. According to the theory of the so-called Iron Law of Wages the pay of workers is determined by the cost of the production of their labor, that is, by what it costs the workers and their families for bare subsistence.

Q. What and where was Coxey's Army? W. W. N.

A. As one historian says, "one Coxey of Massillon, Ohio," originated the plan to lead an "Army of the Commonwealth of Christ" to Washington in 1894 to propose a government issue of $500,000,000 in greenbacks to be paid out for work upon the public roads in order that the country might at one and the same time be supplied with serviceable highways. On May 1st of that year, Coxey accompanied by 350 men arrived in Washington.

Q. What is syndicalism? J. A. B.

A. Syndicalism is a form of revolutionary labor unionism. The term is derived from the French word syndicat meaning a labor union. Syndicalism is opposed to the old time trade-unionism on the one hand and to political socialism on the other. It aims at direct control over all industries by organized bodies of workers.

Q. Are all labor leaders opposed to prohibition? M. McM.

A. From their public expressions there seem to be differences of opinion concerning prohibition among labor leaders just as there are among other groups of people and it could not fairly be said that all labor leaders are for or against the Eighteenth Amendment and the Volstead Act.

XXXIX

LANGUAGE

Q. On what continent are the most languages spoken? C. R. S.

A. There are said to be more than 900 languages used in Asia, almost 600 in Europe, 275 in Africa, and more than 1,600 languages and dialects in the Americas.

Q. What is a palindrome? O. L.

A. Palindrome means running back again, and is used to indicate a word or sentence that is the same when read backward or forward. Level is a word which is a palindrome. "Madam, I'm Adam," is a sentence that is a palindrome.

Q. What language is the most perfect? H. D.

A. It is a matter of opinion. Many authorities on philology have claimed that the ancient Greek is the most perfect language that has ever existed in the world.

Q. What are the most beautiful words in the English language? A. M.

A. While this is a matter of opinion, the twenty words which won in a voting contest are: melody, splendor, adoration, eloquence, virtue, innocence, modesty, faith, joy, honor, nobility, sympathy, heaven, love, divine, hope, harmony, happiness, purity and liberty.

Q. What three words in the English language contain all the vowels in their proper order? N. N. M.

A. Abstemiously, facetiously and arsenious.

Q. What is the meaning or significance of the word amen in prayers? E. J. H.

A. Amen is a word of Hebrew origin, having the sense of firmly, or surely, certainly, truly, and when used at the end of a prayer or creed it has the meaning "So be it."

Q. How many parts of speech are there in the English language? L. G. S.

A. There are eight parts of speech as usually classed by grammarians. Some, however, list nine. This includes the articles, the, a, and an, as being in a separate class. The others are nouns, pronouns, verbs, adjectives, adverbs, conjunctions, prepositions, and interjections.

Q. What causes the death of a language? N. T.

A. The death of a language is caused by the literary decadence of the peoples to whom the language was native. Other causes are conquest and settlement which gradually impose other languages upon peoples.

Q. Is it correct to say per week, and per day? J. W.

A. The use of this Latin preposition is not sanctioned in English. One should say a week and a day.

Q. What name is given to words which are pronounced alike, but are spelled differently and have different meanings? A. M.

A. They are called homonyms; for example, fair and fare.

Q. What is the correct plural of teaspoonful? E. McC.

A. The plural of teaspoonful is teaspoonfuls. The word teaspoonsful suggests a different thought. Four teaspoonsful means four different teaspoons, whereas four teaspoonfuls indicates that one teaspoon has been filled four times.

Q. What is the origin of the word housewife? Is it in good usage? I. A. B.

A. The word housewife has been used in the English language from a very early period, it having appeared in literature as early as 1225 in the form of husewif. It implies a woman, usually married, who directs or manages the affairs of the household, also the wife of a house holder. It is from the Middle English words hus, meaning house, and wif, meaning woman. Nothing derogatory is implied in the term, and it is in good usage.

Q. What does Tacoma mean? T. W.

A. It is an Indian word and means the highest or near heaven.

Q. What are the statistics as to the frequent use of words in the English language? A. G. L.

A. It is estimated that 300 words make up 75 per cent of all the words used in common speech and writing; 1,000 words for 90 per cent; 2,000 more than 95 per cent; 3,000, 98 per cent; 4,000, 99 per cent, and 6,000, 99½ per cent. Ten words form more than a fourth of all these used—the, and, to, you, of, be, in, we, have, and it. The first three of these are the words used most frequently.

Q. What is the difference between wood, lumber and timber? T. W. L.

A. The term wood is of general application and covers both timber and lumber. Timber is wood suitable for use in buildings, carpentry, etc., whether in the tree or cut and seasoned. It is also applied to forest land covered by trees producing such wood. Lumber is timber which has been sawed or split for use as beams, boards, planks, etc.

Q. Why was it difficult to carry on a conversation in old Latin? E. H.

A. The difficulty found in speaking Latin was the same as that of old English. Sentences in Latin and old English were very long, sometimes as long as a long paragraph. Men spoke in sentences of 400 and 500 words. While one spoke all others had to sit by and listen until he had finished. Today, it has been decided that a sentence should not last longer than 25 seconds or contain more than 15 or 16 words.

Q. Is it ever correct to pronounce ate as if it were spelled et?

A. The word ate may be pronounced either with the a sounded as the a in pray or as the e in get. In England, the latter pronunciation is usual.

Q. What language is Pennsylvania Dutch? A. S. C.

A. This is correctly termed Pennsylvania German. The language is a legitimate dialect of South Germany which, says Wm. Beidelman, has suffered and become corrupted by the introduction of English words and idioms.

Q. Which language is most widely spoken in the world? C. R. M.

A. The English language is spoken more widely than any other language in the world except the Chinese. It is the language of 160,000,000 persons. German is spoken by 110,000,000, and Russian by 100,000,000.

Q. How do English words get into the French language? E. V.

A. The French Academy must approve the addition or adoption of

any new words, as it may be said to have official charge of the French language. Recently two English words were added through the action of the Academy—the words interview and gentleman.

Q. Has English a greater slang vocabulary than any other language? S. E.

A. French ranks first; English second in the possession of the richest slang vocabulary.

Q. Please settle an argument. A friend claims that the word cemetery was first used in this country and that in England they said churchyard. Is this true? H. K. M.

A. Both the word cemetery and the word churchyard have been used for many centuries in England. The word cemetery was originally applied to the catacombs in Rome. It is found as early as 1387 in England. The word churchyard, on the other hand, appears in the Old English Chronicles at about the year 1154.

Q. What does the word jui-jitsu mean? P. D.

A. The Japanese spelling is jujutsu. Ju means soft—probably because no weapons are used, and jutsu means art.

Q. What is the origin of the word vaudeville? H. M.

A. The word owes its origin to a little French village in Normandy in the valley of the river Vire, named Vaudevire or Vaede-vire. Here lived in the fifteenth century, Olivier Bassel or Basselin, a poet, the composer of convivial songs, which became popular and were sung by the common people and introduced into plays and entertainments. The name was thus given to all such songs and later to the entertainments into which they were introduced. This word has but two syllables and should be pronounced vod vil, long o and short i, or vod vel, long o and long e.

Q. What is the word for fear of cats? G. O. H.

A. The term for this feeling is aelurophobia.

Q. Should one say "I am bringing these books to Mary" or "I am taking these books to Mary"? E. M. S.

A. Either sentence may be correct, depending upon the meaning which you wish to convey. Bring is to bear from a more distant place to a nearer place, while take is to bear from a nearer place to a more distant place. Upon leaving the place where the books were procured you would say "I am taking." Upon reaching Mary's home, you would say "I am bringing."

Q. What is meant by the word diva when used in reference to a great woman singer? R. E. F.

A. The word diva is the feminine form of the Italian word divo, meaning divine.

Q. What is meant by hue, chroma, and color? N. S. W.

A. Color is a generic term, whereas hue suggests some modification of color, even though the two terms are occasionally used synonymously. Chroma refers to the degree of departure of a color sensation from that of white or gray. In other words, it is the intensity of a distinctive hue.

Q. How many words are modern people familiar with? E. R.

A. The editor of the Standard Dictionary says that the average well educated American knows from 60,000 to 70,000 words and every well read person of fair ability and education will be able to understand as used 50,000 words.

Q. Which is correct, "Have you a dollar?" or "Have you got a dollar?"

A. "Have you a dollar?" is correct, as denoting simple possession. "Got" or "get" expresses attainment by exertion.

Q. Is it proper to say "differ with" or "differ from"? J. R.

A. Whether one says "differ with" or "differ from" depends upon what the speaker wishes to convey. For example, if two persons have a disagreement one says to the other, "I differ with you." If physical differences are referred to, one says, "She differs from her sister in that she has brown eyes and black hair."

Q. What distinction is there between the suffixes ham and tun? G. T. D.

A. Ham meant a dwelling; and tun signified the fence or wall which enclosed a village or place of defence.

Q. Please give me the correct uses of O and Oh. J. N. W.

A. Some editors and other authorities make no distinction between the two words. The commonly followed rule, however, is for the use of O in directly addressing a person or a personified object, in uttering a wish, and to express surprise, indignation, or regret; and for the use of Oh as an interjection and as the colloquial introduction to a sentence.

Q. What is meant by an absolute adjective? Is "straight" one? S. McN.

A. Some qualities are incapable of comparison because they already are so absolutely expressed that one cannot think of them as greater or less. For example, square and unique. Straight can be compared, hence it is not an absolute adjective.

Q. Why is a barn so-called? K. C.

A. The word barn is derived from the Saxon berern, from bere, barley, and ern, a close place or repository, and originally denoted a building for the storing of grain.

Q. Which is correct—burnsides or sideburns? H. E. R.

A. The name descriptive of a style of whiskers is burnsides. They were worn by General Ambrose Everett Burnsides and his name was given to them.

Q. What is the origin of the word panic? T. E. F.

A. Panic was first an adjective and meant of or pertaining to Pan. It was used of sudden and extreme fear with little foundation, such as Pan was supposed to cause. The adjective was combined with nouns, as panic terror, panic alarm, or panic fear.

Q. Who first used the word vitamine? R. J. N.

A. The word vitamine was first used by Dr. Casimir Funk when he fancied he had prepared a pure or nearly pure form from rice polishings by extracting them with alcohol and purifying the extract, which when applied even in very small doses was capable of curing polyneuritis in pigeons in a startling manner. The derivation of the word is obvious, from vita, life, and amine, an ammonia derivative, because it appeared to be a substance necessary for the maintenance of life and health and was thought to contain nitrogen in amine form.

Q. How long has the word garage been in the English language? V. T.

A. The earliest record of the use of garage in the English language seems to be in 1903.

Q. Is the word slang itself slang? J. L. J.

A. Slang is not slang. It is probably from the Norwegian sleng, meaning an invention, a device. Slang is usually an invented word used to express a particular idea not quite conveyed by usual words.

Q. When and where was the word telegraph first used? E. D. H.

A. It was first used in France to describe a device invented by Chappe in 1792, consisting of an upright post with movable arms, the signals being made by various positions of the arms according to a pre-arranged code. The word was later translated into English and used for our present telegraphic communication.

Q. I have heard that Esperanto may eventually be the world language. Please tell me something about it. P. A. R.

A. Esperanto was first published by Lazarus Ludwig Zamenhoff, a Polish eye specialist, in 1887, under the title, The Language of Dr. Esperanto, (he who hopes). There are about 2,900 root words in the ordinary literary Esperanto and some 2,000 technical and scientific terms. Since the World War, the language has gained favor rapidly, particularly in England, Germany, Austria, Hungary, Czechoslovakia, Brazil, Argentina, Chile and Uruguay. It is estimated that an educated person can learn Esperanto sufficiently well for reading, writing, and conversation in three months.

Q. From what language is the word loot derived? G. G.

A. From Hindustani. It means plunder.

Q. What is the word that signifies fear of lightning? C. K.

A. It is astrophobia, while some of the other phobias are: agoraphobia, fear of being in an open place or street; claustrophobia, fear of being shut in a room or house; mysophobia, fear of defilement, pollution or contamination; pyrophobia, fear of fire; anthrophobia, fear of society.

Q. Are the five vowels, a, e, i, o and u, used more frequently than any other letters? H. G. L.

A. Among printers, experience has taught the frequency of the use of letters so that tables have been prepared in which e comes first with a rating of 1,000, while the four next in order are t at 770; a at 728; i at 704, and s at 680. The letter S is most frequently used as an initial letter.

Q. What does khaki mean? M. C. H.

A. In Hindustani it means dust, earth or ashes, and is applied to dust or clay-colored fabrics.

Q. How long a pause should be made for a period and for a comma? C. P. G.

A. Time values for punctuation are given in the method of pointing known as rhetorical punctuation. Here the comma is said to indicate a pause long enough to count one, a semi-colon two, a colon three, and a period four. Since readers would vary in rapidity of reading and counting, punctuation according to grammatical circumstance is usually followed.

Q. Why is there a b in the word debt? W. R. S.

A. The word debt is derived from Middle English det, dette, and from Old French dette. In an effort to make the English spelling suggest more directly the original Latin debita the b was inserted. The s was inserted in island for the same reason, and the l in fault, although in the latter case it came in time to be sounded.

Q. How many is meant by a few? E. N. A.

A. The word few has never been authoritatively interpreted to mean a definite number. The word is necessarily indefinite and implies a small number, not many. In general, the number is above two. The word is relative in respect to the number to which it is compared. If a thousand were expected, an attendance of a hundred would be a few, while if a hundred were a maximum, ten or twenty would seem a few.

Q. Why is the plural verb used with the singular you? A. R. N.

A. You was formerly the second person plural, and was used with the plural verb in addressing a king. It corresponded to the kingly we. It is called a plural of courtesy, but is now in common use.

Q. What is the origin of the word adobe? F. H. A.

A. Adobe is a word traceable to an Egyptian hieroglyph, signifying brick. From this origin it became At-tob in Arabic and in Spanish it became Adobar, meaning to daub or plaster. The term adobe was adopted in the United States from Mexico to designate the process of molding sun-dried bricks in a wooden frame for building houses and garden walls.

Q. Since both capitol and capital are derived from the Latin word caput, why are they not spelled alike? S. J. T.

A. While the parent word was undoubtedly caput in both cases, capitol is derived from capitolium and capital from capitalis.

Q. What is the plural of the word goose, meaning the article used by a tailor to shape the shoulders of a coat? J. E. D.

A. The implements are gooses.

Q. Please give a definition of amateur. J. P. P.

A. The word literally means one who loves some special activity. An amateur in athletics is one who perfects himself in some departments of athletics, and enters contests without receiving remuneration. The term is the antonym of professional.

Q. How are vowels formed? M. R.

A. There are numerous theories concerning the formation of vowels. C. K. Rogers writing in Your Voice and You says: "The theory most commonly accepted and most generally taught is that they are shaped in the mouth by various positions of the lips and tongue, which positions furnish so many forms or molds into which the stream of vibrated air is poured."

Q. What is thieves Latin? W. S.

A. The word slang is the modern equivalent of the term. Until the 19th century it denoted the jargon peculiar to thieves or vagrants.

Q. What is the difference between Latin and Italian? E. E. A.

A. Italian is a Romance language developed from Latin. The development has been from the inflectional to the analytical type of speech. Italian is much more vocalic than Latin, dropping final consonants and softening the harsher combinations.

Q. Should the plural or singular form of a verb be used after the noun ethics? N. K.

A. The singular is correct—The ethics of the case is, etc.

Q. What is the derivation of the word budget? B. W. H.

A. Budget is from the old French bougette, meaning a wallet. The use of the word in its present sense is from the custom of bringing into the House of Commons all papers pertaining to matters of expenditure, in a leather bag, and laying them on the table.

Q. How many verbs are there in our language? I. G. R.

A. There are about 8,000 verbs in the English language. Of these, approximately 2,000 are classed as irregular, although some of them have regular forms.

Q. Is it correct to say "I saw a certain party last night"? M. S. G.

A. It depends upon the meaning to be conveyed. If the reference is to a party of people it may be used,

but not when the word is used as a synonym for person. Party is used in the singular as a legal term.

Q. Why is the word mush applied to driving dog teams? B. F. B.

A. Mush is the short form of mush on, which is a corruption of the French word Marchons (let us march). This was the cry of voyageurs and coureurs de bois to their dogs.

Q. Which is correct "An error would result in a subscriber being charged with a call," or "a subscriber's being," etc.? J. M. H.

A. The word should be subscriber's. A noun modifying a verbal noun or gerund must be in the possessive case.

Q. In speaking of the American flag is it proper to say color or colors? C. E.

A. Colors is the term usually heard, although either singular or plural form may be used.

Q. What is meant by morticians? S. M.

A. The word mortician is a trade expression used by undertakers who are members of a certain organization. The word is in a class with the expression realtor, which may be used only by such real estate men as are members of a certain real estate organization. The word mortician is a derivative of the Latin word death.

Q. Is there any definite rule for the use of I at the beginning of a letter? C. B.

A. There used to be an unwritten rule of letter etiquette to the effect that it was contrary to good taste to use the personal pronoun I, as the first word of a letter. This rule, however, has not been observed for many years.

Q. Is it correct to say a hotel or an hotel? B. G.

A. Words beginning with h that are accented on the second syllable are preceded by an—an hotel is correct, but a hospital is proper.

Q. Please give me the meaning of the word rosary? R. A. B.

A. The word rosary is derived from the Latin rosarium, which was originally a garland of roses and used to crown the image of the Virgin Mary. As a rosary, in its present use, it was instituted in honor of the Virgin by St. Dominic.

Q. What is the plural of memorandum? M. J.

A. While the form generally used for the plural is memoranda, the newer editions of dictionaries and encyclopedias also give memorandums.

Q. What does the word biscuit mean? H. L.

A. Biscuit is a French word which signifies twice cooked, the term having been originally applied to thin, flat bread, for the use of travelers and soldiers, baked a second time to increase its keeping quality by expelling practically all moisture.

Q. What does Rialto mean? G. D. C.

A. It is a combination of Italian words, meaning deep brook. The island on which Venice was founded was called Rivoalto, and the chief bridge in that city is the Rialto. Two rows of shops divide the bridge into a broad road and two narrow side passages.

Q. What is a split infinitive? M. W.

A. A split infinitive is one in which an adverb is introduced between the word to and the verb form, such as to heartily laugh. Woolley, in his Handbook of Composition, states that the word to as used with the infinitive is not to be classed as a preposition. It is an integral part of the infinitive and hence should not be separated from the verb form.

Q. Is the verb which follows the noun acoustics in the singular or plural form? K. E. E.

A. The singular form is used. Acoustics is a branch of physics.

Q. What is the origin of the word boycott? R. M.

A. Captain Boycott was the English agent of Lord Erne in Ireland in 1881. He incurred the ill will of the tenants. As a result the population for miles around refused to deal with him in any way.

Q. How long ago did "its" come into common use? P. T. D.

A. The possessive form "its" did not come into common use until after the 17th century.

Q. What is the derivation of the word dollar? D. B.

A. The word is taken from the German thaler, an abbreviation of Joachimsthaler, a piece of money first coined in 1518 in the Valley of St. Joachim in Bohemia.

Q. What was the origin of the term porcelain as applied to chinaware? A. B.

A. The French word porcelaine was an adaptation of an Italian word porcellana, meaning a cowrie shell. Its beautiful polished surface suggested the name for the ceramic ware of France.

Q. What does drama mean? Q. T. B.

A. The term drama means the deed. The modern drama is an evolution of that created thousands of years ago in Greece. The origin is traced to the festival in honor of Ceres, the goddess of the grain.

Q. Is all right ever written as one word? J. W. Z.

A. This is often done, but is incorrect. There is no such word as allright or alright.

Q. What is the meaning of Philathea? M. L. K.

A. The word Philathea, is derived from two Greek words which mean love and God. The translation as used is love of God. The name is applied to a world-wide organization of young women's Bible classes, representing various religious denominations.

Q. What is the origin of the word jazz? A. B. C.

A. The word jazz, according to Walter Kingsley, is of African origin. The word has been found in the Creole patois and idiom of New Orleans, where it means speeding up things. The Creoles adopted it from the negroes and applied it to rudimentary and syncopated music.

Q. Who introduced the word cent into our language? C. T.

A. Gouverneur Morris, who was interested in establishing the financial system of this country, introduced the word.

Q. What is the dwarf language? W. B. C.

A. In the old Norse the echo is called the dwarf language, probably because it was thought to be produced by dwarfs within the mountains, imitating the sounds from without which they heard.

Q. Why is "between you and I" incorrect? A. J. B.

A. Because the preposition between controls the case of both pronouns, which must be in the objective case.

Q. What does lung mean in Chinese? R. T. S.

A. It is the Chinese word for dragon—the chief of the four supernatural beasts of Chinese legendary lore and of the 360 species of scaly reptiles.

Q. Why are High German and Low German so-called? P. Z.

A. High German is so-called because it is spoken in the hilly and mountainous midland and southern

districts. Low German is spoken in the low and level northern sections.

Q. Is it proper to say "I reckon I will be there on Thursday"? A. H. D.

A. The verb reckon should not be used. It means to estimate or count up.

Q. What preposition should follow the word diminution? H. M. B.

A. Of is used, as "There was no diminution of enthusiasm."

Q. Why can't the adjective unique be modified by very or most? C. A.

A. Unique means the only one of its kind. It is therefore incomparable. The word is frequently misused for odd, rare, or unusual.

Q. What is chiaroscuro? H. T. K.

A. This name is given to the arrangement of light and shade in painting. It is that element which not only gives volume to an object but gives also an impression that the light is carried into the shadows and that were the shadows suddenly lifted, the substance of the picture would be revealed. Da Vinci, Correggio, Grunewald and Rembrandt were the masters of this technical characteristic of the art.

Q. What is the name given to the grammatical construction which closes a sentence with a preposition? W. W.

A. This was named the Addisonian termination by Bishop Hurd, because it was so frequently employed by Joseph Addison.

Q. If memorandums can be used as the plural for memorandum, why not datums instead of data as the plural for datum? A. G. L.

A. Usage in commercial practice has sanctioned the use of memorandums, but there is no authority for the use of datums.

Q. What is the derivation of the word tariff? J. Z.

A. It is from the Arabic ta'rifa, meaning a notification or inventory from "arafa" to know.

Q. Should one say "The man died of influenza, or "with influenza," or "from influenza"? E. B. H.

A. Correct English says that the form, "He died of influenza," should be used. Its author, Mrs. Baker, explains that one dies of a disease, from hunger, by violence, and for another.

Q. What does the word Suwanee mean? M. C.

A. This is an Indian word about which interpretations vary. It is usually translated as Echo.

Q. Is it correct to say "Drive slow" or should it be "Drive slowly"? E. A. R.

A. Either is correct. Slow is both an adjective and an adverb.

Q. What is the meaning of Baraca? V. I. C.

A. This word, which is used as a Sunday-school class name, is a transliteration of the Hebrew word meaning Blessed, used in Chronicles 20:26.

Q. What is the difference between an epoch and an era? A. E. D.

A. Epoch and era are usually used synonymously. In history either one denotes a fixed point of time, commonly selected on account of some remarkable event by which it has been distinguished, and which is made the beginning or determining point of a particular year from which all other years, whether preceding or ensuing, are computed. Some writers distinguish between the terms epoch and era. According to them, both mark important events, but an era is an epoch which is chronologically dated from; an epoch is not marked in this way. Thus the

birth of Christ was both an epoch and an era, according to this view.

Q. What is the derivation of trousseau? F. B. S.

A. The word is from the old French trusse and originally meant a little bundle. It was applied to the few things that a bride took with her to the home of her husband. A modern trousseau has quite outgrown this simple interpretation.

Q. How did the English possessive case originate? H. P.

A. The Grammar of English Grammars says that the English possessive case unquestionably originated in that form of the Saxon genitive which terminates in es, examples of which may be found in almost any specimen of the Saxon tongue: as, "On Herodes dagum,"—"In Herod's day;" "Of Aarones dohtrum,"—"Of Aaron's daughters," — Saint Luke, 1, 5. This ending was sometimes the same as that of the plural; and both were changed to is or ys before they became what we now find them. This termination added a syllable to the word. The apostrophe was probably introduced to shorten it.

Q. Is it correct to say "had rather"? I. C. T.

A. "Had rather" is an English idiom, the use of which is accepted. "Would rather" conforms to the grammar of the English language.

Q. How long has the capital letter been used to designate the first person singular? O. H. M.

A. At the introduction of printing, the various forms in use to indicate the first person singular settled down to the capital I. This is probably due to the fact that the small letter i lacks distinction and appeared utterly inadequate when printed.

Q. Is it proper to say "I feel badly"? S. V.

A. The sentence is not correct. In this construction the speaker needs to characterize the subject rather than to modify the verb, hence the sentence should read, "I feel bad." A helpful rule to remember in this connection is "verbs of the senses are followed by adjectives rather than adverbs."

Q. Should one say somebody's else or somebody else's? E. G.

A. English idiom of the present day requires that one say somebody else's.

Q. What is the meaning of gin in cotton-gin? E. K. J.

A. As used in machinery, gin is an abbreviation of engine.

Q. What is the technical name of a whereas clause? A. E. C.

A. Paragraphs introduced by the word whereas are called preambles.

Q. When were Italics first used? G. H. M.

A. Manutius, a Venetian printer, first used them about 1500 A. D.

Q. How did the goods known as gingham get its name? M. McM.

A. Gingham is derived from Guingamp, a town in Brittany, where the fabric was woven, its manufacture having been introduced into Great Britain through France from India.

Q. How does fuller's earth get its name? P. T. D.

A. Originally this material, which resembles clay in appearance, was used in fulling cloth, and took its name from this use. Other uses are made of it, such as clarifying or filtering fats, greases and oils; for bleaching; in manufacture of pigments for printing wall papers, in detecting certain coloring matter in some food products, and as a substitute for talcum powder.

XL

MANUFACTURES

Q. How much wire is used in making a window screen? J. I. F.

A. In a full sized window screen there is about a mile of wire.

Q. How many different things can be made of rubber? E. R.

A. It is said that one factory puts rubber into 30,000 different articles.

Q. How many processes are there in the making of a modern shoe? W. H. T.

A. In making an ordinary shoe there are 174 machine operations performed upon 154 different machines, and 36 hand operations—altogether 210 processes by a proportionate number of work people.

Q. How many parts are there in a watch? S. S. W.

A. A watch is comparatively a simple machine, containing an average of about 150 distinct parts. However, by actual count it has been found that the production of these parts requires over 3,700 separate operations.

Q. Why is calico so called? G. A. B.

A. Calico derives its name from the city of Calicut, in Madras, where it was first manufactured. It was brought to England in 1631 by the East India Company.

Q. Are kids skinned alive when the hides are to be used for kid gloves? R. W.

A. This is not done. The leather employed in making fine kid gloves comes from the skins of young goats which are killed while they are on a diet of mother's milk and before they are allowed to feed on herbage.

Q. When did the chewing gum industry begin? A. C.

A. This business dates back to 1860 when the original industry was begun on an outlay of $55.00. It has since progressed until now the American public spends more than $1,000,000 a week on chewing gum.

Q. Are ostrich skins ever made into leather? J. R. K.

A. Leather made from ostrich hide is made into purses, week-end cases, and other novelties. Since ostriches are too valuable to kill for their skins, the leather is rare and expensive.

Q. When was silk culture first introduced into this country? M. K.

A. About 1737 in Connecticut, the first coat and stockings made from New England silk being worn by Governor Law in 1747 and the first silk dress by his daughter in 1750.

Q. How fast are the finer tapestries woven? G. T. I.

A. In high art haute-lisses tapestries well filled with personages, the artist-weaver can weave only about a square yard in a year. These tapestries are woven on upright looms. Basse-lisse tapestries, those woven on horizontal looms at which the weaver works with his

feet as well as with his hands, are produced about one-third more rapidly. It requires 12 to 15 years to educate a novice in the mysteries of the profession.

Q. Are there any factories at all in the District of Columbia? T. I. S.

A. There are about 500 manufacturing establishments in the District and they turn out over a hundred different articles including automobile bodies and parts, druggist's preparations, furniture, lumber products, marble and stone work, chemicals, electrical machinery, tools, and leather goods. The value of the finished products is over $67,500,000 annually.

Q. Who discovered rayon? C. H. D.

A. In 1889 as a result of research, Count Hilaire de Chardonnet, a young French nobleman, gave to the world its first commercial successful process for producing rayon. This he accomplished in his laboratory by chewing up chemically not only the mulberry leaves, but also the tree itself, with very likely a few worms thrown in for luck. The fiber he produced so much resembled natural silk that it was termed artificial silk by which name it has been known until four years ago, when the word rayon was agreed upon by those who made and sold it.

Q. How long can a trolley wire be used? A. B. D.

A. The period of time that a trolley wire can be used before being replaced depends entirely on the amount of traffic. However, as an average, it would last 10 years.

Q. What are the origin and meaning of the term rubber, applied to the material of which shoes, tires, etc., are made? G. A. M.

A. Soon after the elastic material which is so-called, otherwise called caoutchouc, became known in civilized countries it was noticed that the material possessed the power of removing lead pencil marks from paper when rubbed over them. From its first known production and use having been by Indian tribes of South America, it first came into commerce as Indian Rubber.

Q. Can you tell me what is the strongest wire in proportion to its weight? N. D.

A. Piano wire is considered the strongest in proportion to its weight.

Q. How long have wool, linen, and cotton goods been made? A. Q. W.

A. Woolen fabrics are almost as old as linen. They were used by the ancient Egyptians and by the Greeks of Homer's time. Cotton is of great antiquity. It was known to the ancient Egyptians and Greeks.

Q. How long does it take to make the best grades of leather in a modern tannery? J. E. S.

A. It takes about 150 days.

Q. Are camel's hair fabrics actually made fom the hair of camels? M. L.

A. Camel's hair is imported into Europe and used extensively in the manufacture of dress materials and rugs. Cow's hair is also used as a substitute in the cheaper grades of so-called camel's hair goods.

Q. How is artificial snow made? B. J. C.

A. Artificial snow is made from steel wool or mica. In either case, the material is simply broken into fine bits.

Q. Where is the largest rubber manufacturing city in the world? H. M. P.

A. Akron, Ohio, is said to be the largest rubber manufacturing center in existence.

Q. What city in this country leads in the manufacture of tacks? E. A.

A. The city of Taunton, Mass., is the great tack-making center of the world.

Q. When were shoes first made in the United States? C. F. S.

A. The manufacture of shoes in the United States was established in 1629 by Thomas Bearg, who came over with hides, both upper and bottom, in the Mayflower.

Q. What is neat leather? K. T. T.

A. This is a term applied to bark-tanned cowhide, oil finished.

Q. What makes oriental rugs crooked? E. B. G.

A. Most of these rugs have a woolen wrap. They are apt to be crooked on account of the elasticity of the wool. For this reason, cotton is supplanting wool, especially for the large rugs made to order for the European and American markets.

Q. Have tapestries been woven in the United States? W. E. W.

A. They have been woven in the United States. William Baumgarten started looms at 321 Fifth Avenue, New York City, in 1893. After several pieces had been finished the industry was moved to Williamsbridge, a suburb, and weavers from Aubusson were engaged. A piece of American tapestry put out by these looms is at present in the Field Columbian Museum in Chicago. Another set of wall panels and furniture, costing $20,000 was executed for P. A. B. Widener of Philadelphia. Some wall panels were also made for the directors' room of the New York Life Insurance Company.

Q. When was rubber hose first used? L. C. B.

A. Although it is said that India-rubber hose was brought out in England in 1827, hose used for fire protection up to the year 1859 was made of leather. At that time hose made of cotton with a rubber lining was exhibited at a fireman's parade.

Q. When was the first carpet mill started in this country? H. E. A.

A. The first mill of this sort was started by William Peter Sprague in Philadelphia in 1791.

Q. Can the leather grindings from a shoe shop be used as fertilizer? M. G.

A. Large quantities of leather waste are now said to be employed in the manufacture of ready-mixed fertilizers. The value of such leather unless it is subjected to the chamber process is small in any case, although it is slightly greater if steamed than if roasted.

Q. When were shoe pegs first used? W. W. S.

A. The shoe peg was invented by Joseph Walker, of Hopkinton, Massachusetts, in 1818. Nothing but sewed work had previously been done.

Q. What are in reality the skins sold so widely for cleaning purposes and called chamois skins? Are they, or any of them, the actual skins of the Alpine antelope, or is it only a trade name? J. S.

A. The soft pliable leather known as chamois was originally obtained from the Alpine antelope, but practically all of the skins known under this trade name on the market today are procured from the sheep, goat, calf, and other animals, such as the coyote.

Q. Is it true that only four hairs on the chin of a badger are suitable for fine badger shaving brushes? M. F. S.

A. Badger shaving brushes are made from the hairs plucked from any part of the badger skin provided they are of sufficient length.

Q. How is invisible ink made which turns red with application of heat? A. A.

A. A weak solution of nitrate of copper gives an invisible writing, which becomes red though heat.

Q. Is rubber made synthetically? R. N.

A. Chemists have been working for some time to produce a synthetic rubber, but it is safe to say that nothing has as yet been produced from any source whatever, which is of commercial value in replacing crude rubber, nor do the best informed minds on this subject believe that the production of a synthetic rubber in commercial quantities is even in sight.

Q. Is it practical to use sawdust for the manufacture of wood pulp? S. L. B.

A. Under present conditions it does not seem economically feasible to pulp sawdust and use the resulting pulp for the manufacture of board or paper.

Q. Where does the Government Printing Office buy the ink it uses? C. N. C.

A. This organization makes its own ink. During one fiscal year, it produced 105,855 pounds of printing ink. Also 19,000 pounds of ink were bought from the Army as war material, and remixed. Forty-nine kinds of ink were made.

Q. How much of the gold produced is used in coinage? P. T. D.

A. About one-fourth of the annual production of gold is used for money, the remaining three-fourths being consumed in dentistry, in the arts such as jewelry, gilding, and gold leaf work, and the making of the annual loss from various causes.

Q. Which States lead in manufacturing? C. E. J.

A. In 1925 the five States having the largest amount of capital invested in manufacturing were: Pennsylvania, $6,117,729,968; New York, $6,012,082,567; Ohio, $3,748,743,996; Illinois, $3,366,452,969; and Massachusetts, $2,947,108,527. The five States having the lead in the value of products manufactured were: New York, $8,867,004,906; Pennsylvania, $7,315,702,867; Illinois, $5,425,244,694; Ohio, $5,100,308,728; Massachusetts, $4,011,181,532.

Q. How much paper is made annually? H. T. P.

A. The world's annual paper production is now about 8,000,000 tons. It is estimated that for every 10 years there is an increase in demand of about 25 per cent.

Q. Does Sweden manufacture more matches than the United States does? D. S. M.

A. According to the Trade Record of the National City Bank of New York about 1-3 of the matches consumed in the whole world are produced in the United States and only about 20 per cent in Sweden; Japan also produces 20 per cent; Great Britain, 15 per cent and Poland, Norway, Germany and China, the remainder.

Q. Why is a damp climate better than a dry one for textile manufacturing? D. L. G.

A. The humidity is necessary in the weaving of textiles and wherever the climate is not actually damp, moisture has to be induced into the weaving rooms. Dampness is necessary because the fibre absorbs a certain amount of moisture which makes it pliable and easy to work.

Q. How widely are American boots and shoes used? G. T. H.

A. The Department of Commerce says that American boots and shoes are finding markets in approximately 100 countries of the world, but the markets taking the larger proportion are Cuba, Mex-

ico, Canada, Panama, British West Indies, British South Africa, Italy, Great Britain, and the Central American countries.

Q. How old is the making of leather? E. R. C.

A. Primitive methods of curing skins were known to the ancient Egyptians. In China specimens of leather have been discovered which proved to be over 3,000 years old. The earliest explorers of America found the Indians wearing skins prepared in different ways.

Q. Was muslin goods named for a person or a place? W. N. G.

A. Muslin is an Eastern word derived from Mosul, a city in Mesopotamia, on the River Tigris. It was applied to a kind of light cotton goods of open texture made in that city. In the Middle Ages, Marco Polo reported that caravans from Mosul brought goods of great fineness to Eastern markets, whence they were distributed to Europe. The finest material from Mosul was so delicate that an entire breadth could be drawn through a lady's ring.

Q. What is the smallest wire known? C. H. E.

A. By the device of coating a platinum wire one-hundredth of an inch in diameter with silver, drawing the two metals out together as fine as possible, and then dissolving away the silver coating with nitric acid, a platinum wire three one-hundred-thousandths of an inch in diameter has been secured — so fine that one mile of it would weigh only one twenty-fifth of a grain.

Q. Why are hides tanned? S. E.

A. The American Chemical Society says that if left untanned a hide like the meat decays. In the untanned state the fibers of the hide are glued or matted together. When tanned the strings or fibers are individualized so that they move separately without tearng apart. This process also swells or thickens the skin.

Q. Was the cotton fabric used in the outer fabric of the Shenandoah made in the United States? A. C.

A. It is a domestic product, made by a firm in New York City.

Q. Why do burning cotton and wool have different odors? R. S.

A. Cotton and wool smell differently when burned because of nitrogenous substances in wool.

Q. How much wire is there in the cables of the Brooklyn Bridge? J. G.

A. The four great cables of the Brooklyn Bridge are each composed of 19 separate strands, each strand 2,578 1-2 feet long and each composed of 278 wires. The total length of wire in the four cables unwrapped is 14,080 miles.

Q. Is there any significance to the designs generally found on oriental rugs? S. C. C.

A. Authorities on oriental rugs say that the rug itself typifies the universe and the various designs the ever changing course of life. The principal color, if red, typifies life or victory; if blue, royalty; if white, purity; if green, devotion, and if black, evil. In patterns the swastika means good luck; the flower and knot, fortune and life everlasting; the circle, immortality. The star of six points represents Allah.

Q. Will you kindly tell me what per cent of the material in an average automobile inner tube is pure rubber? L. S.

A. The Bureau of Standards says that the average inner tube contains about 90 per cent of rubber by volume—about the same as in a rubber band.

Q. Is Spanish leather genuine leather? C. P.

A. This is a trade name applied

to genuine leather which has been given a certain process in dressing.

Q. What makes goods shrink when put in a dye bath? L. S.

A. The dye bath itself has no effect upon goods. Shrinkage is due to the hot or cold temperature or due to the sudden change from hot to cold or vice versa.

Q. Why are Turkish towels so-called? A. E.

A. Turkish towels are so-called because the material from which they are made resembles a cloth of Turkish manufacture.

Q. Where did corduroy goods get its name? N. G. G.

A. This corded cloth was named from a finer fabric manufactured in France and used in the hunting habiliments of the King and his suite, then called cord du roi, translated the King's cord.

Q. Where is the largest silk mill in the world? E. K. B.

A. There are no official statistics as to the location of the largest silk mill in the world. The Silk Association of America, however, says that William Skinner and Sons, Holyoke, Massachusetts, have the largest silk mill under one roof in the world, there being 2,300 looms there. Schwarcenbach, Huber and Company have the largest mills in Europe, but they do not have a large number of mills under one roof. They are scattered in small units in various towns and villages.

Q. What is the value of the output of the Government Printing Office? W. H.

A. The value of the output per year of the Government Printing Office is approximately $10,000,000.

Q. Is real Georgette crepe all silk, silk and cotton, or silk and wool? W. A. E.

A Georgette crepe is a light sheer silk fabric having a fine crepe surface. It is woven in the gum and subsequently boiled off and dyed or printed. It was originated and named by Haas Brothers, but has since been widely copied.

Q. Who first made wooden clocks in America? F. M. C.

A. Eli Terry, born at Windsor, Conn., in 1772, made his first clocks by hand, the movements being of wood. He was the leading maker of wooden clocks in America and invented the shelf clock which introduced the pillar-scroll top case.

Q. Does silk have to be spun like cotton, wool, and flax? H. L.

A. Raw silk, unlike other textile fibers, is a continuous thread and requires no spinning. However, its preparation for the loom requires many distinct operations—conditioning, throwing, doubling, and twisting, boiling off, shaking, glossing, and lustering.

Q. What is Kidderminster carpet? W. V. B.

A. Kidderminster and ingrain carpet are the same. One name is derived from the English town where it is made, and the other signifies that the carpet is made of wool or worsted dyed in the grain —before manufacture.

Q. Where is most of the silk goods of the world made? W. C. P.

A. The United States produces 80 per cent of the world's finished silk products.

Q. Is there a law or ruling that goods manufactured here must be stamped "Made in the United States"? C. D. S.

A. This is not a domestic requirement. Its use by manufacturers is usually the result of requirements on the part of certain countries that merchandise imported should bear some mark of the country of origin.

XLI

MEMORIALS

Q. What were the articles placed in the corner stone of the Washington Monument? J. M. T.

A. There were included in the articles, a copy of the grant of the site, a copy of the design, a copy of the Constitution of the Washington Monument Society, a portrait of George Washington from Stewart's painting, copies of the Constitution and Declaration of Independence, copies of the Presidents' messages up to that time, a silver medal representing George Washington, and the national monument, designed by Jacob Seeger; the Holy Bible, copy of census statistics of the United States, an American flag, the coat-of-arms of the Washington family, copies of newspapers containing accounts of Washington's death and funeral.

Q. Describe the Lincoln Memorial in Washington. J. H. F.

A. In general form, the building resembles a classic Greek temple. There is one large enclosed hall, surrounded by a colonnade of Doric columns, representing the States of the Union maintained by Lincoln. Within the building is an heroic-sized, marble figure of Lincoln by Daniel C. French. On the north wall is a bronze tablet bearing the words of Lincoln's second Inaugural Address. A similar tablet, bearing the words of the Address at Gettysburg, is on the south wall. Over these are large allegorical paintings by Jules Guerin. The memorial was dedicated May 30, 1922.

Q. In what city is the Taj-Mahal? N. K. B.

A. This magnificent mausoleum is in Agra, India.

Q. Where is there a monument to the apple? R. M.

A. In Cordelia, Ga., a replica of an apple of steel and concrete, 22 feet in circumference, and weighing 5200 pounds mounted on a base 8 feet in height, was recently placed in the public square.

Q. Who selected the Seven Wonders of the World? Are any of them still in existence? F. C. S.

A. Antipater of Palestine is thought to have made the selections about 200 B. C. Only one, the Pyramid of Cheops, is still in existence.

Q. Is there any danger of the Confederate Memorial on Stone Mountain being damaged by erosion? P. D. T.

A. At first, it was feared that the Memorial would ultimately be destroyed by erosion. The State Geologist, however, estimates that every 100,000 years, the process of erosion would affect the memorial to the amount of one inch.

Q. Why is the figure of Lincoln in the Lincoln Memorial shown sitting on an American flag? M. M. B.

A. The figure is not seated on a flag. Draped around Lincoln's chair is a flag against which he leans. Flag etiquette today would not permit such a decoration of a chair. It was, however, permissible in Lincoln's time.

Q. Where and what is Liberty Row? D. L.

A. Liberty Row is an avenue of red oaks in a park at Cleveland, dedicated May 30, 1919, to the memory of the 835 Cleveland boys who gave their lives in the World War.

Q. Is the Leaning Tower of Pisa still settling down? G. C.

A. In 100 years the tower has added nearly a foot to its inclination and is now a little more than 14 feet out of plumb. Early in 1925 the Italian Government appointed a commission to take measures to insure its safety.

Q. When was the Sea Gull Monument in Salt Lake City unveiled? W. O. H.

A. This monument on Temple Block was unveiled October 1, 1913.

Q. Why was the Arc d' Triomphe built? V. H.

A. The Arc d' Triomphe was erected to commemorate the victories of Napoleon. He commenced the construction of the memorial in 1806. It was completed by Louis Philippe in 1836. On its inner walls are inscribed the names of ninety-six of Napoleon's greatest victories during his period of glory.

Q. Please name some memorials or other public projects to which school children of the United States have contributed money. B. B.

A. Among them are: Preservation of Old Ironsides; St. Gauden's Statue of Lincoln, Newark; Buffalo Bill's Monument; Lincoln Statue in Lincoln Park, Washington, D. C.; James Whitcomb Riley Memorial, Indianapolis; Eugene Field Memorial, Chicago; and New Liberty Bell, Philadelphia.

Q. I have been told that in England there is a memorial showing an American officer leading a charge of the British Marines. Can you explain this? H. H.

A. The bronze tablet to which you refer on the Royal Marine Memorial is in the Mall outside the Admiralty facing Buckingham Palace, London, England. This is a memorial to the Royal Marines who fell in South Africa and China. In this particular episode in China, when all British officers, had been wounded, an American officer, Captain Myers, took charge of the troops. We quote the following account: "Third July, 1900, Captain Myers, the officer commanding the American Marine Guard with a force of 15 Americans, 25 British Marines under Sergeant Murphy and 15 Russians, carried and occupied two Chinese barricades on the South City Wall toward the Chun Min Gate. Bas relief on the Royal Memorial is no doubt intended as a compliment to the United States Marine Corps."

Q. How tall is the Christ of the Andes? C. M.

A. The figure of Christ of the Andes is 26 feet high, resting on a granite column 22 feet high.

Q. What countries contributed stones of commemoration to the Washington Monument? C. R. I.

A. The Monument contains stones contributed by various States, cities and organizations, and by Turkey, Greece, Japan, China, Siam, Brazil, Paros and Naxos in the Grecian Archipelago, Bremen, Switzerland, and Wales.

Q. How many steps in the stairway of the Statue of Liberty? C. E. M.

A. In the Statue of Liberty the number of steps from the base of the foundation to the top of the torch is 403. The number from the ground to the top of the pedestal is 195.

Q. Who formerly owned the site that is now Arlington Cemetery? C. H.

A. Arlington, across the Potomac from Washington, was form-

erly the home of Robert E. Lee. This property was seized by the Government during the Civil War and is now the site of the national cemetery, in which officers and men of the Army and Navy are buried.

Q. Where in the United States National Cemetery at Gettysburg is the exact spot from which President Lincoln delivered his famous speech? Mc. L.

A. The Superintendent of the Cemetery says that the Soldiers' Monument was placed where the address was delivered, as nearly as it was possible to judge.

Q. Is there anywhere in England a carving similar to that being made on Stone Mountain? T. R. G.

A. There is no carving with the detail of the American enterprise. The most noted memorial of this kind in Great Britain is a white horse which is carved in the chalk cliffs of the Berkshire Mountains. This carving pictures a white horse galloping. The horse is 375 feet long and the carving covers two acres of space. The origin is in doubt. The tradition is that it commemorates the victory of King Ethelred and his brother Alfred (afterwards Alfred the Great) over the Danes at Ashdown, 871, near White Horse Hill. The preservation of the memorial is due to a ceremony of "The Scouring of the White Horse" in which the villagers and townspeople assemble to clean out the trench. Interesting mention of this ceremony which occurred last in 1857 was written by Thomas Hughes.

Q. When did the memorial stone from the Pope of Rome disappear from the Washington Monument grounds? D. E. K.

A. This stone to be used in the construction of the Washington Monument disappeared on March 6, 1854, and was supposedly thrown into the Potomac.

Q. Can one see a reproduction of the Taj Mahal in this country? T. G.

A. A reproduction of this building was constructed for the Sesquicentennial Exposition.

Q. Was the ground upon which the George Washington Masonic Memorial is being built ever owned by Washington? N. N. L.

A. It was formerly the property of George Washington. This land was proposed by Thomas Jefferson and John Adams as a desirable site for the national capital, but George Washington objected to this use because he owned the property and did not wish to give any ground for a supposition that he might profit from its sale.

Q. Is Bunker Hill Monument on Bunker Hill or Breed's Hill? F. B.

A. It stands on Breed's Hill where the battle actually was fought.

Q. Who took the place of Gutzon Borglum in charge of the Confederate Memorial on Stone Mountain? T. A. C.

A. He was succeeded by Augustus Lukeman.

Q. Is Tait McKenzie's War Memorial erected at Almonte, Ontario, a portrait statue? A. L.

A. Dr. McKenzie of Philadelphia chose for the subject of this memorial the late Lieut. Alex A. Rosamond who fell in action at Courcellette in 1916.

Q. What do the three figures in the Dupont Memorial Fountain in Washington, D. C., stand for? M. W.

A. The three female figures of the Dupont fountain are representative of the Sea, the Wind, and the Stars.

Q. Where is the Dinosaur Monument? P. T. D.

A. The Dinosaur Monument is 12 miles east of Vernal, Utah, and

the nearest rail approach is Watson, Utah, on the Uintah Railroad.

Q. What is the inscription on the Confederate Monument in the Arlington Cemetery? A. L. J.

A. This inscription written by Dr. Randolph McKim reads: "Not for fame or reward Not for peace, or for rank Not lured by ambition Or goaded by necessity. But in simple obedience to duty As they understood it These men suffered all Sacrificed all—Dared all—And died."

Q. How many stones are in the Washington Monument? A. O. N.

A. It has been estimated that there are 23,000.

Q. Who designed the memorial to Whistler at West Point? D. H.

A. The tablet, in the form of a Greek stele, was designed by Augustus Saint Gaudens. The Copley Society of Boston is the donor.

Q. What is the meaning of the inscription on the walls of the Amphitheater at Arlington, "When we assumed the soldier we did not lay aside the citizen"? L. J.

A. They were the words of George Washington, and were uttered for the purpose of reassuring the New York Provincial Congress in 1775 that the people of the country of those days should have no fear lest he and his Army would act otherwise than to secure and to preserve the liberties of the people. And it was Sir William Blackstone some time later who expressed much the same thought as Washington, but in these words: "He puts not off the citizen when enters the camp, but it is because he is a citizen and would wish to continue so that he makes of himself for a while a soldier."

Q. How much does the Washington Monument sway? C. N. S.

A. The amount of sway at the top of the monument is less than one inch.

Q. Where and what is the Portal of Peace? H. G. L.

A. The Portal of Peace is a massive concrete structure in the form of a gateway. It is located at Blaine, Washington, and was dedicated September 5, 1921, in honor of the peace between the United States and Canada, which had lasted for more than 100 years without a break. The memorial, which cost $40,000, stands 100 yards from the international boundary where the 49th parallel meets Boundary Bay.

Q. Is the Amphitheatre at Arlington a memorial to the Unknown Soldier? N. A.

A. The Memorial Amphitheatre of Arlington is erected to the memory of all the soldier dead of the United States who have died in the service of their country. The Tomb of the Unknown Soldier is directly in front of the Amphitheatre.

Q. Where are there memorials to Abraham Lincoln? J. A. W.

A. There are innumberable memorials erected to Abraham Lincoln throughout the United States and also in other parts of the world. The most noteworthy include those at—Brooklyn; Cincinnati; Illinois University, Lincoln Hall; Springfield, Illinois; Muskegon, Michigan; Newark, New Jersey; and Washington, D. C.—statues at the National Capitol, the City Hall, Lincoln Park, and Lincoln Memorial; also at London and Edinburgh.

Q. Where are the American cemeteries in Europe? O. M.

A. The American cemeteries maintained in Europe are: Aisne-Marne, Belleau; Brookwood, England; Flanders Field, Belgium; Meuse-Argonne, Romagne; Oise-Aisne, Seringes-et-Nesles; Somme, Bony; St. Mihiel, Thiacourt; Suresnes, Paris.

Q. Where is the Canadian war memorial to be? D. L. T.

A. One of the principal memorials of Canada is to be at Vimy Ridge, which, together with 250 acres of land about it, has been surrendered to Canada. No taxes will ever be charged by France. Canada will undertake to beautify the shell-torn area.

Q. Will you give me some details concerning the projected archaeological work to be undertaken by Italy in Sicily? S. L. D.

A. A temple on the Acropolis of Selinus, is to be re-erected. Originally it was 230 feet long by 85 feet wide. Six columns decorated the front; eighteen the side. This particular temple occupied the most prominent place on the Acropolis. To whom it was dedicated is not known.

Q. What size are the stone crosses that mark the graves of the overseas Christian dead? G. V. B.

A. They are 47 1-4 inches in height, 20 7-8 inches wide, and 3 1-2 inches thick. Below grade the stone will measure 9 7-8 inches; above grade, 39 3-8 inches.

Q. Has a memorial ever been dedicated to the author of On the Banks of the Wabash? A. B. P.

A. Dresser Drive, which skirts the Wabash River in Terre Haute, Indiana, is named for Paul Dresser, who wrote On the Banks of the Wabash, this being known as Indiana's song.

Q. Which is the largest national cemetery in this country?

A. The Arlington National Cemetery is the largest national cemetery in the United States. It has an area of 408 1-3 acres and on June 30, 1926, there had been 35,380 interments, 30,667 of which are known and 4,713 unknown.

Q. Who completed the St. Gaudens Memorial called George F. Baker Memorial at Kensico Cemetery? D. A. M.

A. Elsie Hering, pupil and assistant to St. Gaudens, completed this memorial after the sculptor's death. Her name appears with that of St. Gaudens on the monument. Mrs. Hering did the entire work of the angel figures.

Q. What memorial has Mrs. Roosevelt erected in France to Quentin Roosevelt? P. B.

A. On one of her trips to the place of Quentin Roosevelt's burial Mrs. Roosevelt found that the little French town nearby had an inadequate water supply. Rather than erect an elaborate memorial over Quentin's grave Mrs. Roosevelt had pure water piped from a distance to the village.

Q. I am told that there is an inscription to the Glory of Almighty God on the Washington Monument. Is this correct? L. D. J.

A. The inscription on the east face of the aluminum cap crowning the Washington Monument is "Laus Deo" meaning "Praise God."

Q. What war memorial to librarians has recently been unveiled? B. R.

A. An oak mural memorial containing the names of librarians in the British Army who fell in the World War has just been unveiled in the British Museum, London.

Q. Why is a mausoleum so named? P. G.

A. The name is derived from the tomb erected at Halicarnassus to Mausolus, King of Caria, by his widow, Artemesia. It was built about 350 B. C.

Q. Of what structure was it said "no noise was heard during its construction"? J. H. F.

A. Of Solomon's Temple it is recorded: "And the house, when it was in building, was built of stone made ready at the quarry; and there was neither hammer nor axe nor any tool of iron heard in the house, while it was in building."

Q. Is there a memorial to Louis Hemon in Canada? K. T. A.

A. The memory of the author of Maria Chapdelaine is honored by a tablet erected at Chapleau, where he and a companion were killed by a train. The monument to the young French writer is in the yard of the school at Peribonka. It was erected by the Societe des Arts, Sciences et Lettres de la Province de Quebec.

Q. Please tell something about the Lion of Lucerne? S. J.

A. The Lion of Lucerne is an important memorial in the town of Lucerne, Switzerland. It is carved out of the side of a grotto from a model by Thorwaldsen, to commemorate the defense of the Tuileries in Paris, August 10, 1792, by the Swiss Guards who were massacred by the mob. The lion is 28 feet in length.

Q. Where is the original monument from the grave of Thomas Jefferson? W. W.

A. The original monument is at the University of Missouri, Columbia.

Q. What is the Arch of Titus? S. M. L.

A. The Triumphal Arch of Titus was built by Domitian in 81 A. D., to commemorate the taking of Jerusalem in A. D. 70. It was built of Pentelic marble, but when this Arch was rebuilt in 1882, travestine was used to replace the missing portions.

Q. Where is Rushmore Mountain and what memorial is to be inscribed there? S. T. D.

A. Rushmore Mountain is in the Black Hills near Rapid City, South Dakota. Gutzon Borglum, the noted sculptor, is to carve gigantic images of Washington, Jefferson, Lincoln and Roosevelt on the side of the mountain. The undertaking is sponsored by the Mount Harney Memorial Association, authorized by the South Dakota State Legislature.

Q. What is the inscription on the bronze plaque of Theodore Roosevelt which was given to Michael Collins by American friends? J. W. C.

A. This plaque is in the office in Government House, Dublin, that was occupied by Michael Collins and bears the paragraph which might be called the creed of strenuous life. "I wish to preach not the doctrine of ignoble ease but the doctrine of the strenuous life, of toil and of effort, and of labor, and strive to preach the highest form of success that comes not to the man who desires more ease and peace but to him who does not shrink from danger, hardships, and bitter toil and who, out of these, wins the splendid and ultimate triumph."

Q. We read that the new statue of General Sam Houston is the second largest equestrian statue in the United States. What is the largest? W. R. T.

A. General Lee's statue in Richmond is the largest.

Q. What woman has her statue in the Hall of Fame in Washington? A. J. R.

A. The only memorial statue erected to a woman in the so-called Hall of Fame in the Capitol Building at Washington is the portraiture of Miss Willard. Frances Willard was at the time of her death in 1898 the president of the Woman's Christian Temperance Union and of the World's Woman's Christian Temperance Union.

Q. Who designed the statue of Alexander Hamilton which adorns the south front of the Treasury? A. H. P.

A. James Earle Fraser is the sculptor who made the figure and Henry Bacon designed the pedestal. Mr. Bacon is the architect of the Lincoln Memorial, while Mr. Fraser is perhaps best known as the designer of the buffalo nickel.

XLII

METALS AND MINERALS

Q. What are the hardest and softest minerals? F. C. B.

A. The Bureau of Mines says that the diamond is the hardest mineral. There are a number of mineral liquids. Probably water is the softest.

Q. What is a simple test for gold? J. W. T.

A. The Geological Survey says that a test of gold is to touch the material with a glass stopper wetted with nitric acid. This would leave gold unchanged, but would color base alloys blue by formation of nitrate of copper.

Q. Can diamonds be destroyed in a fire? F. A. A.

A. Diamonds are not inflammable in air; however, if put in pure oxygen they will burn at about 850 degrees C.

Q. Why is Babbitt metal called that? A. R. T.

A. Babbitt metal takes its name from that of its discoverer, Isaac Babbitt, an American inventor, a native of Massachusetts. The metal was invented and patented in 1839.

Q. How do they measure the hardness of the metal in testing tools? E. M.

A. By one method the tool is struck by a small diamond-pointed hammer falling freely from a height of about 10 inches. By measuring the re-bound of the hammer, engineers determine the hardness of the steel.

Q. Who discovered aluminum? M. N.

A. It was first isolated in 1838 by scientists Davy and Wohler. In 1886 Hamilton V. Castner of New York City perfected a plan of manufacturing aluminum as a sheet metal.

Q. What is the standard size and weight of a bar of silver? S. B. C.

A. The Treasury Department says that there is no standard size and weight for a bar of silver. However, it generally approximates the size of an ordinary building brick.

Q. Why is pig iron given this name? K. T. L.

A. Pig iron is so called because the molten metal is run into a long mass with shorter pieces attached to it at right angles. The long pieces are called the sow, and the shorter are called the pigs.

Q. What is the idea or purpose of corrugating iron? G. A. D.

A. Flat sheet metal tends to buckle and get out of shape with every change in temperature. The corrugations give it greatly increased stiffness, and adapt it to numerous purposes for which it would otherwise be less suitable.

Q. What are the four heaviest metals known? S. N. M.

A. The Bureau of Standards says gold, esmium, platinum, and tungsten are the four heaviest metals. The density of a hammer-

ed or rolled metal is greater than that of a cast metal.

Q. What kind of metal does not rust under ground or in water? K. C.

A. One of the qualities which makes gold one of the most valuable metals is its resistance to water. Gold has been found in perfect condition after having been buried or submerged many centuries.

Q. Is there any kind of metal that will absorb moisture? K. N. A.

A. A form of bronze has been perfected in the laboratories of the General Motors Corporation that is so porous that it will soak up oil like a sponge. The quantity of oil it will absorb equals one-fourth of its own mass.

Q. When was brass first made in this country? J. N.

A. The first making of brass in North America was attempted by John Winthrop, Jr., in his iron foundry at Lynn, Mass., in 1644. Brass cannons were cast in Philadelphia before the Revolution. Beginning in 1725 and for 50 years thereafter, the industry was carried on in that city by Casper Wistar.

Q. Are aluminum cooking utensils made of pure aluminum? G. W.

A. They are generally made from commercially pure aluminum (99.4 per cent of al.). One brand contains about 1.25 per cent manganese.

Q. Why isn't pure iron used in the trades? R. W.

A. It is not used because of its spongy, soft character. It can not be worked and has little strength.

Q. Why was green gold so-called? L. E. B.

A. The term originated in the early days when someone declared that metals went through a process of evolution and ripened at last to a finished product. The originator of this false theory claimed to have the secret that aided gold in refining. Green gold is an alloy. When 17 per cent silver is mixed with gold, a green color is produced.

Q. Is there a certain time that gold coins are declared too worn for use? D. N.

A. Coinage legislation determines the point at which the coin loses its legal validity. In the United States, gold coins which have lost more than one-half of one per cent of their weight in 20 years from date of issue, or proportional amounts for shorter periods, are legal tender by weight only.

Q. How thick is gold leaf? J. J. T.

A. It ranges from 1-200,000 to 1-250,000 inch in thickness.

Q. Can gold be tempered, and to what extent? E. L. B.

A. The Division of Mineral Technology says that most metals are usually hardened by working when cold and gold is probably hardened to a degree but no metal is greatly hardened (or tempered) except by the addition of some other substance such as the carbon added to iron to make steel. Gold is ordinarily hardened as in the United States coins by the addition of copper. The United States coins contain 10 per cent copper and 90 per cent gold.

Q. Where is the gold leaf of commerce made? L. D.

A. The industry centers in Germany, principally in Nuremberg, Furth, and Schwabach.

Q. How long has gold been known in this country? E. P. S.

A. The metal was known to the Indians as early as 1564. Mining was commenced in the Appalachians about 1792 and in California in 1848.

Q. How long has coal been mined? C. S. W.

A. Historically considered, coal mining dates back to about the end of the twelfth century. However, coal as an inflammable substance, was known to the ancients, and to the Britons before the Romans visited their island.

Q. Can you tell me where the thickest vein of coal in the world is and in the United States? G. N. C.

A. The Bureau of Mines says that the thickest coal seam in the world is the Fortuna Mine near Cologne, which is 100 meters or 330 feet thick. The thickest seam in the United States of highgrade coal, is in the Mammoth Seam near Wilkes Barre, Pa. This seam is 50 feet thick, some folds running as high as 60 to 80 feet.

Q. When was copper discovered? R. E. T.

A. Copper and copper-alloy objects are found in the prehistoric remains of Egypt dating back to the 4th dynasty 3800 to 4700 B. C. It was found in Asia Minor dating probably to 3000 B. C., and in China to about 2500 B. C. The remains of the Mycenaean Phoenician, Babylonian and Assyrian civilization, (1180 to 500 B. C.) have yielded a variety of copper and bronze objects.

Q. When was an alloy first used with gold? M. L. K.

A. An alloy has been used with gold since a period many centuries earlier than 1600 years ago. Gold in the raw state was known in the later stone age. It was probably the first metal known to man. So long ago as in the day of the cities of Cyzicus and Phocaea, electrum, a natural alloy of gold and silver was used in making coins.

Q. How many tons of coal does it take to make one horse-power? I. O. H.

A. Steam engineers estimate that it takes ten tons of black coal turned into steam to make one horsepower.

Q. Is alcohol the hottest fuel? T. H. C.

A. It is not the hottest. Oxy-hydrogen and oxy-acetylene are hotter.

Q. How much oil equals one ton of coal? F. C.

A. Three and a half to four barrels of fuel oil are equal to one ton of coal.

Q. Does America produce as much coal as it uses? A. P. S.

A. America produces 43 per cent of the world output and consumes 42 per cent.

Q. What did the smiths of old times use in their forges before coal was discovered?

A. Charcoal was the fuel used before coal in forges.

Q. How can I estimate how much coal there is in a bin? E. K.

A. The Bureau of Mines says that, roughly guessing, 40 cubic feet will hold one ton of anthracite coal, and 45 cubic feet, one ton of bituminous coal.

Q. How long has coal been used in England? F. J. M.

A. According to some authorities, coal was known to the ancient Britons. It was an article of household consumption during the Anglo-Saxon period as early as 852 A. D. England was probably the first country in which coal was used in any considerable quantities. In 1316 Parliament petitioned Edward II to prohibit the use of coal on the ground of its being injurious to health.

Q. How many pounds of coal out of a ton are actually used in creating energy? R. H. G.

A. Roughly speaking about 50 per cent of coal in the vein reaches

the consumer. This is burned with a furnace efficiency of about 60 per cent to produce steam. Steam is used at an efficiency of 16 per cent to produce power. Roughly 5 per cent of the energy of the coal in the vein is finally used as power.

Q. What are the various sizes of anthracite coal? M. W. P.

A. The trade names of the various sizes of anthracite coal are lump, steamboat, broken or grate, egg, stove, chestnut, pea, No. 1 buckwheat, No. 2 buckwheat, No. 3 buckwheat and culm. The sizes range from lump, which will not pass through a screen the openings in which measure six inches, to culm, which passes through screens with openings of five sixty-fourths of an inch.

Q. When was anthracite coal first used in this country? J. T. G.

A. It is said that anthracite was sent from near Sunbury, Pa., to Carlisle, Pa , and used by soldiers stationed there during the Revolutionary War, but this is not authentic. Pennsylvania anthracite was first used commercially in 1812 when it was successfully burned in a heating furnace by the Fairmont Nail and Wire Works near Philadelphia. It was first used in a blast furnace by the Lehigh Crane Iron Company in 1838. Anthracite was first burned in an open grate by Judge Pell in Wilkes Barre, Pennsylvania, about 1800.

Q. What is the difference between white gold and green gold? I. D.

A. White gold is usually an alloy of gold, silver, and palladium, or gold, nickel, and zinc. Green gold is an alloy of gold and silver.

Q. What is the total value of the diamonds in the world? B. B.

A. They probably represent a value of $5,000,000,000. The United States absorbs 50 per cent more diamonds and precious stones than all the remainder of the world.

Q. Where is the finest collection of jewels in this country? T. A. M.

A. The American Museum of Natural History, New York City, has a collection of cut and uncut gems, the gift of J. Pierpont Morgan, which is the largest and most valuable in the world.

Q. How much coal is wasted in London smoke? A. G. N.

A. Annually, 3,000,000 tons of fuel in the form of smoke escapes into the atmosphere of London.

Q. A man weighs 150 pounds. How much is he worth if he is worth his weight in gold? C. E. J.

A. A troy pound of gold would be worth $248.04. An avoirdupois pound would be worth $301.43. The price of gold is fixed by international agreement at $20.67 a troy ounce; 150 avoirdupois pounds of gold would be worth $45,214.50.

Q. How many tons of coal are there in an acre of coal? L. S.

A. In estimating coal in reserve it is usual to figure that in a vein of coal one foot thick there would be 1800 tons under an acre. In a vein three feet thick it would amount to 5,400 tons. About one-third is estimated as wastage, therefore, mined, it would amount to about 3,600 tons. The amount might be some less or possibly more.

Q. How did cannel coal get its name? D. I. V.

A. Cannel coal burns with a bright, candle-like flame, and it is probable that the name is a corruption of candle-coal. This coal is found in Kentucky, Ohio, and Indiana, and some believe that it is a product of an accumulation of animal as well as plant remains. The same kind of coal is found in Scotland where it is called parrot coal.

XLIII

MONEY AND BANKING

Q. When did money begin to play an important part in world affairs?

A. While coins had been made and money used to some extent, it was not until Rome became a world power in the centuries just preceding Christ's birth, that it took an important place in affairs. It was also at this time that soldiers were first paid for their services.

Q. Where were the first banks? J. J. W.

A. The earliest banks on record were the national temples, such as Delphi and Delos, in Greece. The money they received in deposit, they loaned out at rates of interest varying from 10 to 30 per cent per year. Private bankers were first heard of in Babylon in the time of Nebuchadnessar about 600 B.C. Theocritus, Tacitus and Suetonius all allude to the existence of banks in their histories.

Q. What was the highest point of our national debt? S. F. McK.

A. The Treasury Department says that the peak of the public debt was reached on August 21, 1919. At that date it was $26,595,701,648.01.

Q. Was whiskey ever used as a medium of exchange in the United States? S. S.

A. After the collapse of the continental currency in 1780 there was a reversion to the practice of barter and whiskey was used as a measure of value, particularly in South Carolina.

Q. What would the value be in United States money of the 30 pieces of silver for which Judas betrayed Christ? R. M.

A. In American money it would amount to $11.28.

Q. What is call money? G. A. C.

A. Call money is money loaned on condition that the loan be repaid at any time the person making it calls for his money.

Q. How many banks are there in the United States? J. D. W.

A. The latest figures showed that there were 17,436 state commercial banks in the United States, 8,085 national banks, 1,664 loan and trust companies, 990 stock savings banks, 613 mutual savings banks, and 560 private savings banks.

Q. Are pennies legal tender in settlement of a debt? K. G. F.

A. They are legal tender only up to 25 cents. Consequently a creditor cannot be forced to accept more than 25 pennies in payment of a debt.

Q. What was the first trust company in this country? P. J. W.

A. The first company in the United States granted the power to do a trust business was the Farmers' Fire Insurance and Loan Company, now the Farmers' Loan and Trust Company, of New York City, to which extensive trust powers were granted in 1822.

Q. When were Building and

Loan Associations started in this country? C. E. D.

A. The first association of the nature of building and loan associations chartered in the United States was organized at Frankford, a suburb of Philadelphia, in 1831 under the title of the Oxford Provident Building Association. Many were organized in the decade from 1840 to 1850, which may be considered as the real period of their inception in this country.

Q. What are bank clearings? S. B.

A. The term relates to the aggregate amount of checks and drafts exchanged between members of a clearing house association and carried there daily for an adjustment of the differences. In large cities more than 90% of the commercial business is done by means of checks and drafts and less than 10 per cent is done with cash.

Q. Why was the eagle changed on American money? A. T. C.

A. The fathers of the Republic decided upon an eagle as an emblem, and unfortunately the species known to them was the sea or bald eagle, feathered only to the knees, and a "piratical parasite of the osprey." The golden eagle, to which a change has been made on the coins of the country, is feathered to the toes.

Q. In the upper left hand corner of the one dollar bill issued in 1917 is a picture of a man. Who is it supposed to be? W. H.

A. The Treasury Department says that the head which appears on one dollar bills, series of 1917, has no significance, and is not intended for the likeness of any particular person. The designs on paper money are made as complicated as possible in order to prevent counterfeiting. The head referred to was evidently used by the designer to fill in a vacant space.

Q. What was the value of the widow's mite? J. W. P.

A. It is recorded in Mark and Luke, Authorized Version of the Bible, that the widow gave two mites. The mite was a Jewish coin worth about one-eighth of a cent. This would make the widow's contribution amount to about one-quarter of a cent.

Q. If a man tells me to draw on him for a certain sum of money, is he legally liable for the amount of the draft? F. S.

A. To make the acceptance of a draft or bill of exchange legally correct the person against whom it is drawn must write his name across the face. Sometimes the word accepted written above the name is also insisted upon.

Q. Do banks often act as executors for estates? G. E. S.

A. The practice is growing steadily for men whose estates consist of mortgages, stocks and bonds, real estate, and insurance to appoint a bank as executor and trustee. In this way a concern whose regular business is the handling of money and investments takes charge of the financial welfare of the beneficiaries of the estate.

Q. Will you please explain the process of sending money to London by New York draft? T. D. L.

A. The Post Office Department says that banks in New York maintain balances in London, against which a bill of exchange (which is the same as a draft) is drawn. The price paid is in dollars for the bill which is payable in pounds sterling, and is dependent upon the market rate at the time of purchase.

Q. Is it possible for tourists to visit the Bank of England? C. E.

A. A note written a few days beforehand will make it possible for a tourist to visit this bank and

see its store of wealth in bullion and notes. Arrangements may also be made in this way for visits to the Royal Mint, Egyptian Hall, the libraries and chapels of Lincoln's and Gray's Inns. The House of Parliament can be seen only on Saturday unless one presents an order from a Member.

Q. Are funds placed in a Federal Reserve Bank absolutely safe from loss? E. W. S.

A. Federal Reserve Banks do not deal with individual depositors, but with member banks only. Any member bank of the Federal Reserve System is a reasonably safe place to deposit money, but the Government does not guarantee any bank against failure.

Q. How much money has been embezzled in the United States?

A. The National Surety Company estimates the present loss of the American public through embezzlement at $125,000,000 a year.

Q. Why are bankers sometimes called Lombards? M. K.

A. The great bankers and money lenders of the Middle Ages were Italian merchants who came principally from the cities of Lombardy and settled in London, Paris, and other large European cities. Lombard Street in London became a great financial center and the name Lombard came to be a synonym for money lender or usurer.

Q. If a check is certified, does it guarantee the signature as well as the amount? E. T. L.

A. The certification of a check by a bank does guarantee the signature of the drawer as well as the amount.

Q. What is the difference between the membership of a state bank and a national bank in the Federal Reserve? W. T. D.

A. The membership of a State bank is voluntary and one from which it can, at pleasure, withdraw. The membership of a national bank is compulsory. If a state bank desires to withdraw from the System it has simply to send formal notice to the Federal Reserve Board and proceed independently. The only way the interest controlling a national bank can be withdrawn from the System is by the bank going out of business as a national bank.

Q. Which are the oldest life insurance companies? C. L. I.

A. The oldest existing life insurance companies are the Royal Exchange Assurance Corporation and the London Assurance Corporation, both of which were chartered in 1720 and began issuing policies in 1721.

Q. Can ashes of burned money be redeemed? A. S.

A. Ashes of burned money can be analyzed and redeemed.

Q. What is the origin of the superstitious fear of two-dollar bills, and why is the corner torn away? T. S.

A. There is no national nor universal superstition regarding the two-dollar bill. Probably the reason it is considered unlucky is that it is easily mistaken for a one-dollar bill.

Q. Is life insurance exempt from the income tax? M. S.

A. Proceeds of life insurance policies paid upon the death of the insured are exempt from the payment of Federal income tax. Amounts received by insured as return of premiums paid for life insurance, endowment, or annuity contracts are exempt from Federal income tax.

Q. What was the lowest rate of exchange of paper money for gold during the Civil War? W. E. R.

A. In July and August, 1864, one hundred dollars in greenbacks were worth only thirty-nine dollars in gold.

Q. How often can the design of the silver dollar be changed? J. A. E.

A. The design may be changed only once in 25 years.

Q. What rate of interest should I get for my savings? B. E. T.

A. The returns on investments vary so much that a specific figure can not be named. The important point in such matters is the safety of the principal and not the rate of return.

Q. What constitutes a bad debt? I. M. L.

A. A bad debt is defined as one on which interest is due and unpaid for six months, unless it is well secured and in process of collection.

Q. What are our rarest small coins? S. E. K.

A. The cents of 1799, 1793, and 1804 are very rare, as are the copper cents of 1856 and the half-cents of 1793, 1831, 1840 to 1848, and 1852. The degree of or comparative rareness is largely a matter of opinion.

Q. Has there ever been a national bank in the United States operating under a charter which does not use the word "national" in the name of the bank? C. C. D.

A. The Bank of North America at Philadelphia was the only national bank not having the word "national" in its name. This bank was the oldest bank in America and was permitted to retain this name. A short while ago, however, this bank was liquidated, and was taken over by a trust company. This is now called the Bank of North America and Trust Company.

Q. When was the Federal Reserve System placed into operation? P. N. J.

A. The Federal Reserve System was placed in operation on November 16, 1914, when the 12 Federal Reserve Banks were declared formally open. The Federal Reserve Act was approved Dec. 23, 1913.

Q. What were the denominations of the paper scrip used during the Civil War? J. C.

A. The fractional currency issued during the Civil War was in the following denominations: three cents, five cents, ten cents, twenty-five cents, and fifty cents.

Q. What governmental bureau redeems mutilated paper bills? E. V.

A. Mutilated currency which you wish redeemed should be sent to the Redemption Division, Treasury, Washington, D. C.

Q. When was the first financial panic in the United States? J. H. M.

A. The first small panic of the United States occurred in 1791 following the boom in business after the close of the Revolutionary War and due to over-speculation in the securities of the new government and in the stock of the newly organized banks. The first great commercial crisis was precipitated by the War of 1812, followed by the capture of the City of Washington by the British on August 24, 1814.

Q. Was the Bank of England established by the government? O. R.

A. William Paterson, an English financier, was the founder of the Bank of England, having proposed it as early as 1691 and becoming one of its directors in 1694.

Q. How can a political committee borrow money from a bank when the committees are not incorporated? I. N. A.

A. Money for campaign committees that is borrowed from banks is secured on the endorsements of officials of the committees or other party leaders as individuals whose notes are regarded as acceptable by the banks.

Q. When was insurance first employed? H. T. B.

A. The origin of insurance is

unknown. Suetonius ascribes it to the Emperor Claudius in A. D. 43. Marine insurance was in use at the beginning of the 15th century. In 1574 Robert Chandler, under a patent granted him by Queen Elizabeth, established a chamber of insurance in London. The earliest life policy of which particulars have been preserved was issued on the 15th of June, 1583, at the "Office of Insurance within the Royal Exchange, London."

Q. Is there a bank in New York City which has social workers? B. M. W.

A. The Bowery Savings Bank has established within the main bank building on the Bowery, offices for social workers among both Jews and Italians. It advertised in the foreign-language papers, saying that advice on financial affairs would be freely given. Signs were prominently displayed in the bank, informing visitors that Hebrew, Yiddish, Italian, French, German and English are spoken there. As a matter of fact twelve languages may be understood.

Q. How many checks are cashed by the banks of this country in a year? C. W. W.

A. During one year more than six billion checks, totaling more than four hundred billion dollars, or more than eighty times the amount of actual currency in the United States, passed through the clearing houses of this country.

Q. When was the first savings bank started in New York City? G. G. H.

A. Philip Hone, a merchant who was later mayor of New York and prominent in national political affairs, established the first institution of this kind in 1816.

Q. What period is covered when interest, etc., is declared payable "semi-annually"? R. K.

A. Semi-annual means every six months—not necessarily January and July, or July and December, but any two periods six months apart.

Q. Are our five-cent pieces made of pure nickel? T. C. E.

A. Nickels are seventy-five per cent copper and twenty-five per cent nickel. The nickel gives them their hardness and dominates the other metal as to outward appearance. Copper is much cheaper than nickel and its use saves money in the manufacture of this coin.

Q. Has any country modeled a banking system upon our Federal Reserve Bank? E. N. G.

A. Peru has the Banco de Reserva del Peru, an institution which was modeled upon the Federal Reserve Bank of the United States.

Q. Why does the Government borrow money—why not make it as fast as it is needed? F. H.

A. The Government could not coin money continually without exhausting the supply of gold, without the security of which paper money would be worthless. All gold offered is purchased, and forms the basis of the monetary system of the United States. Silver and minor coins are merely token coins. Silver bullion is bought in the open market on competitive bids, in the same way that any commodity is bought and sold.

Q. What kind of money is used in Porto Rico? M. C.

A. Both American and Spanish money are used in Porto Rico, but the American is the official currency.

Q. How long have we had accident insurance in this country? A. S.

A. Accident insurance was first introduced into the United States in 1859 and the first accident insurance company was organized in 1863 at Hartford, Conn. It is said that the first accident policy was issued when the President of the company insured a citizen of Hart-

ford in the sum of $5,000 for a premium of two cents against death by accident while walking from the postoffice to his residence.

Q. Who molded the first silver dollar for the United States? W. P. M.

A. The Office of the Director of the Mint says that the first silver dollar was coined in 1794 at the Philadelphia Mint. Henry Wright was appointed by George Washington as coiner.

Q. Can I get a good ten-dollar bill for one that was almost burned up? P. H. S.

A. The Treasury Department says that if a person has three-fifths of a bill it can be redeemed for full value. If he has less than three-fifths, but more than two-fifths, it will be redeemed for one-half value.

Q. If a man or his wife dies, can the survivor draw upon funds in a joint bank account? S. M. L.

A. A joint bank account, unless especially limited at the time of making the deposit, gives to either party the right to withdraw any or all of the funds, and in the case of the death of one person the other would be entitled to withdraw the funds.

Q. Why doesn't the price of gold fluctuate? O. L.

A. The price of gold is fixed by international agreement. An ounce is worth $20.67.

Q. Who oversees National banks? L. T.

A. The National banks are under the supervision of the Comptroller of Currency and are examined periodically by National bank examiners, who are appointed by the Comptroller of Currency.

Q. What is the limit to which small coins must be accepted as legal tender? W. A. N.

A. Subsidiary silver coins 10c, 25c, 50c are legal tender for amounts not exceeding $10 in any one payment. Minor coins of nickel and bronze are legal tender to the extent of 25c.

Q. What is a dealer in foreign moneys called? F. A. M.

A. A dealer in, or manual on, moneys of foreign countries or bills of exchange is a cambist. A numismatist is one who studies the science of coins and makes collections of them.

Q. When was the dollar introduced into the United States?

A. The dollar was introduced into America by the West India trade before the Revolution.

Q. Where are the Federal Reserve Banks located? M. C. G.

A. They are in the following cities: Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco.

Q. When were copper cents or pennies first coined in this country? J. J. C.

A. Vermont was the first State to issue copper cents, granting the authority to Ruben Harmon, Jr., to make money for the State for two years in June, 1785. In October of the same year Connecticut authorized the coining of 10,000 pounds in copper cents.

Q. When was imprisonment for debt abolished? I. J.

A. The abolition of imprisonment for debt in this country began in Kentucky in 1821.

Q. What is fiat money? G. E. D.

A. Fiat money is paper currency of Government issue which is made legal tender by fiat or law, but does not represent, or is not based upon, specie, and contains no promise of redemption.

Q. When did the Bank of England open? H. W. O.

A. It commenced active operations on the 1st of January, 1695.

Q. What are obsidional coins? G. C.

A. They are coins struck for temporary use in a beseiged city.

Q. Is a gold certificate worth more than face value? A. R.

A. Gold certificates are receipts for actual deposits of gold in the Treasury and are redeemable in gold coin.

Q. What kind of paper is our money printed upon? L. McM.

A. The paper used in making paper money is of the toughest linen and is made by a secret process protected by statute, penalizing its manufacture for other purposes. Supplies of blank paper are guarded carefully.

Q. If a man gives a note to another man, who endorses and discounts it at his bank, which one of the two is notified when the note is due? M. G. N.

A. The maker of the note is the one notified and the one in whose favor it is drawn does not hear from it again unless the maker fails to pay it when due, or unless the maker wishes merely to make a curtail and therefore must call upon the other for another endorsement.

Q. Is paper money printed only in Washington or do mints print it, too? G. H.

A. The paper money of the United States is printed only at the Bureau of Engraving and Printing, Washington, D. C. The Mints of the United States make no paper currency.

Q. Please give history of the design on the new dollar. F. C. Who posed for the head on it? C. H. B.

A. The Office of the Director of the Mint says that eight artists were invited to submit models for the new peace dollar. The Fine Arts Commission selected the one adopted as the most artistic and this was approved by the Director of the Mint and the Secretary of the Treasury. The name of the designer is Anthony De Francisci. There were 1,006,453 in the first issue. No one posed for the head. It is merely the conventionalized head of a woman.

Q. How much was the shilling worth in Bible times? R. Q.

A. Mark 6:37 speaks of 200 shillings worth of bread. The word in Greek denotes a coin worth nearly 17 cents.

Q. When were the first coins made in this country? H. F. I.

A. The earliest coins struck in this country were the New England shillings, six-pence, and three-pence, issued in the colony of Massachusetts about 1652.

Q. I have a bill which has a star before the serial number. What does it mean? J. H.

A. The Bureau of Engraving and Printing says that the star shows that the bill has been substituted for one that has been found defective after being numbered and sealed. Since all paper currency is subject to several examinations before the numbering and sealing is done, the percentage of starred bills is very small. The percentage of spoilage for the whole process of turning out bills is but 4 per cent.

Q. Have gold and silver always been used as the money metal of the civilized world? C. K.

A. Copper, silver and gold have each in turn been chosen as the principal money metal of the civilized world, the transition from cheaper to dearer metals indicating the growth of exchange and of wealth and the consequent need of larger money units.

Q. What are the largest denominations of paper, gold and silver money in the United States? S. G. S.

A. The largest paper bill is the $10,000 gold certificate Federal Reserve note; the largest gold piece, the $20 double eagle; and the largest silver coin, the silver dollar.

Q. Is the United States paper currency made of two pieces of paper, put together with silk threads between? R. G.

A. It is just one piece of paper with a design on each side. The silk threads in this paper are a distinctive feature of the paper used in making United States money. The silk threads are inserted in the paper during the process of its manufacture.

Q. Which form of currency, paper or coin, is the more expensive for the Government to maintain? J. H. D.

A. Paper currency is more expensive to maintain, as the life of a dollar bill is said to be less than one year.

Q. Will our Government make paper and silver money for foreign nations? J. W.

A. The United States Government does not at present make paper currency for any foreign country. The various institutions of the mint, however, do execute coins for foreign countries, principally those of South America.

Q. What is the amount of alloy in a $20 gold piece? A. M. McC.

A. The fine gold contained in a $20 gold coin is 464.40 grains; the total content being 516 grains. The alloy neither adds to nor detracts from the value of the coin.

Q. Is banking a profession or a trade? K. B.

A. The Bureau of the Census classes banking under the heading of trade.

Q. What good argument is there against making paper money smaller? T. McS.

A. The initial cost of such a change is one argument. It would involve an almost entire change of machinery in the Bureau of Engraving and Printing.

Q. Does Uncle Sam credit to profit and loss the paper money that is considered lost? A. S. F.

A. The Government charged off a certain amount of paper money as lost after the Chicago fire. This is the only time that this has been done. The Government does not actually realize any profit from paper money which is lost, even though theoretically it does. The money is still held in the Treasury vaults against outstanding paper currency and unless Congress passed a bill that this money might be taken out of the reserve fund, no actual profit would be derived.

Q. What are pieces of eight? P. W. I.

A. These are gold pieces which were coined early in the 17th Century at the Amsterdam mint, the Netherlands being under Spanish rule at the time. They were worth eight Spanish reals, or about one Spanish Peruvian dollar, and were coined at the time that Spain was at the height of its power and prosperity.

Q. Is a debt really a debt before it is due? J. F. J.

A. A debt exists when a certain sum of money is owing from one person to another, and a debt is not the less owing because it is not yet due.

Q. What does Ruskin say about money? E. A.

A. Ruskin says that money is not a medium of exchange but is a power over men. If this were not true, men wouldn't want money, but would be willing to exchange labor.

Q. When did the United States first use the motto, In God We Trust, on coins? G. L. E.

A. In God We Trust first appeared on coins of this country in 1864. Hon. S. P. Chase, Secretary of the Treasury, addressed a letter to the Director of the Mint at Philadelphia stating that our coinage should bear a motto expressing in the fewest words that no nation can be strong except in the strength of God. This particular motto was finally decided upon. It first appeared upon a two-cent piece.

Q. When the Comptroller of the Currency winds up the affairs of an insolvent bank, what is done with unclaimed deposits? M. J.

A. The receivers of an insolvent national bank liquidate the assets of the bank as quickly as possible, although there is a time limit of ninety days for claimants to file a claim for the unclaimed deposits. Claims can be submitted until the final dividend is paid any time during the receivership.

Q. Who pays the Government for the coins struck for the Stone Mountain fund? E. L. K.

A. The Government furnishes the bullion, out of which the Stone Mountain Memorial Coins are made, but the Stone Mountain Memorial Association will pay the Government the face value of the coins before they are delivered from the mint. These coins bear the images of Jackson and Lee.

Q. What is the meaning of the words, Thesaur. Amer. Septent. Sigil. found on the seal on all paper money? R. K.

A. The seal is that of the Treasury, and the words are the abbreviation for the Latin sentence, Thesauri Americae Septentrionalis Sigillum. The literal translation is, Of the Treasury of America North Seal.

Q. When was the American Institute of Banking organized? V. T.

A. The American Institute of Banking was organized in 1900.

Q. What kind of insurance is it that Germans have to carry? D. W. S.

A. Germany has for many years had a system of social insurance, which includes workingmen's accident, sickness, invalidity and other forms of compensation. Both employers and employees are obliged by law to contribute to the funds. It is estimated that over 50,000,000 policies are in force.

Q. What date was the money made that has no date on it and bears the name Carolina gold? C. H. B.

A. Carolina gold was a private issue. The undated dollar to which you refer was coined about the year 1834.

Q. Why do the gold and silver coins of the United States have milled edges? E. L. D.

A. They are milled to make it easy to detect a loss of weight caused by scraping the edges.

Q. What was coat and conduct money? W. L. P.

A. This expression was used for a tax exacted by Charles I., the purpose of which was to raise money for coats and transportation to the rendezvous, of men furnished by the hundred for the army of the king.

Q. Was there ever a United States Mint in Georgia? C. H. S.

A. From 1838 until 1861, there was a United States Mint at Dahlonega, Georgia.

Q. Have there ever been any five dollar yellowbacks? M. H.

A. The Federal Government has never issued any gold certificates below the denomination of ten dollars.

XLIV

MOVIES

Q. How many people go to the movies? E. L. V.

A. It has been estimated that about one-fifth of the population of the United States attends the movies each day.

Q. How does the motion picture business rank among the leading industries of the United States? J. F. L.

A. It is the seventh, being exceeded only by meat packing, petroleum, automobiles, foundries and machine shops, steel and cotton. The annual value of the business is $1,250,000,000.

Q. What are the chances of succeeding as a motion picture actor? V. E. M.

A. Robert G. McIntyre, casting director at the Metro-Goldwyn-Mayer studios, says that one motion picture applicant in every 5,000 rises from extra ranks to leading film roles; one in every 25,000 to stardom.

Q. Is Will Hays really the boss of the motion picture business? J. F. T.

A. Mr. Hays is the President of the largest and best known organization in the business, but there are other independent groups such as the exhibitors and theater owners. He represents producers and distributors. He was employed to promote moral and artistic standards and to develop the general usefulness of the industry, and the fact that his contract has been extended would seem in itself to prove that he has been successful in this work.

Q. What is Ramon Novarro's real name?

A. Ramon Gil Samoniegos is a Mexican who chose Novarro for a screen name and recently petitioned a Los Angeles court to have it made his legal name. He explained that Samaniegos was so difficult to pronounce that most people called him "salmon eggs." The court approved his petition.

Q. What was Milton Sills' occupation before he entered the movies? F. C.

A. He was a college professor.

Q. Can you give an idea of the price paid by motion picture theaters for films they show? A. L.

A. It is not unusual for the larger first-run houses to pay as much as $10,000 per week for the first use of big feature pictures. Several years later, after the pictures have had a widespread showing, the little houses get them for a daily rental as small as $7.50 to $10.00.

Q. What business was Carl Laemmle in before he became affiliated with the motion picture industry? A. W. F.

A. He was a clerk in a clothing store in Oshkosh, Wisconsin.

Q. Do the pictures of movie actors continue to be popular when they die? R. M.

A. Contrary to the case of authors and painters whose work re-

ceives an impetus through their death, experience has shown that the movie public soon loses interest in the work of movie artists who are dead.

Q. What was the first moving picture produced and who was the author? E. F. T.

A. Miss Jerry, the first motion picture, was produced in October 1894. Alexander Black was the author, scenario writer, director, cameraman, and titler of Miss Jerry. At the time only five stereopticon slides a second could be projected. At the present time sixteen pictures are shown on the screen in one second.

Q. How much was paid for the picture rights to Ben Hur? W. A.

A. The rights to the play and book alone cost $1,000,000. The construction of the Circus Maximus cost $200,000, and two million feet of negative used in filming sequences in Rome, $80,000. This is probably the most costly moving picture as yet made.

Q. Is it true that the movies help foreign trade? C. G.

A. It is now an established fact that films do influence foreign trade. Demands come for American furniture, articles of clothing, household goods, etc., similar to those seen in the movies. The Commercial Attache of the American Embassy in Berlin recently reported to Secretary Hoover that no one has as yet been able to estimate the large amount of advertising for American goods that has come through the motion pictures.

Q. What is done with old and worn out motion pictures? G. S.

A. Most of them are sold for the silver which can be recovered from the emulsion on them.

Q. Is Noah Beery an American? G. F.

A. Noah Beery and his younger brother Wallace were both born in Kansas City.

Q. What is the meaning of close up in movie parlance? M. McM.

A. A close up is a picture taken when the subject stands five feet or less from the camera. A long shot is from 30 to 50 feet, and medium shot midway between.

Q. How many producers of motion pictures are there in the United States?

A. Who's Who in the Movies says that there are about 150 producers of motion pictures in the United States, of whom about 120 are located in California and the others in or near New York, with a few recently located in Florida.

Q. Where were the pictures for Orphans of the Storm taken? L. W. T.

A. The interiors were taken in the Griffith Studio at Mamaroneck, N. Y. Some of the exteriors were made in France.

Q. What was the name of the first moving picture directed by D. W. Griffith? A. M. C.

A. It was called The Adventures of Dolly. His wife Linda Arvidson played the part of Dolly.

Q. Are there more male than female stars in the movies? S. R. A.

A. There are more male stars at the present time.

Q. How long does it take to make a motion picture? M. C.

A. This varies according to the character of the picture, and conditions affecting it. Some very good pictures have been made within three weeks, but from four to ten weeks is the usual time required.

Q. What is the most expensive item in the manufacture of motion pictures? C. H. B.

A. The salaries of actors is the largest item in production cost, amounting to 25 per cent of the whole.

Q. How old is Baby Peggy? J. F. C.

A. She was born October 26, 1918, and made her debut at the age of two.

Q. Is movie censorship increasing or decreasing? J. M. T.

A. It is said that there is less need for actual censorship now because the producers are voluntarily omitting the objectionable features. Censorship may continue to be useful by the threat it implies.

Q. How large are the separate pictures on a motion picture reel? B. L.

A. They are one inch wide and three-fourths inch high—about the size of a postage stamp laid sidewise.

Q. What is meant by persistence time? F. T. P.

A. This expression is used in the movie world to signify the frequency with which the mind can receive impressions. It is known that this time is one-sixteenth of a second. Pictures presented at the rate of sixteen to a second, therefore, produce the effect of continuous motion.

Q. Who started using cartoons or fanciful pictures to illustrate titles in moving pictures? L. M. S.

A. Harry Myers is credited with the innovation, having drawn such cartoons to illustrate titles for movies of which he was both director and star.

Q. How were the large prehistoric animals in The Lost World reproduced? W. F. E.

A. The natural appearance of the animals in The Lost World is the result of mathematical precision, a deep study of animal life and infinite patience. A tree which looked on the screen to be 60 or 70 feet was really about 18 inches. The monsters were about 18 inches. Each movement of trifling consequence had to be pictured separately to make the whole effect real. The most painstaking work was required with seven cameras, each one on a trolley which when moved into position was locked into place. Each animal was moved into position by hand and in those scenes where the animals are shown springing at each other they were affixed to special and cleverly constructed backgrounds.

Q. How many new motion pictures appear each year? C. J. B.

A. Who's Who in the Movies says that the yearly production of films is about 800 features and 1,500 short reel subjects.

Q. Which of our well-known moving picture actors are from the British Isles? B. I.

A. The following are some of them: David and Ernest Torrence and Spottiswoode Aiken, Scotland; Tom and Owen Moore, William Desmond and Creighton Hale, Ireland; T. Roy Barnes, Ronald Colman, Dorothy Mackaill, House Peters, George Arliss, Lionel Atwell, Alec B. Francis, William T. Carleton, Percy Marmont, Wyndham Standing, Charles Chaplin, and H. B. Warner, England.

Q. How many feet long is the average motion picture film? C. G.

A. For purpose of convenience, and to fit the projecting machines, film is assembled after the pictures are impressed upon it and it has been developed in reels of 1,000 feet each. The individual photograph is called a frame. There are sixteen of these to the foot, 16,000 to the reel. The average feature photoplay is in six reels; therefore, you see no less than 96,000 separate pictures during its running.

Q. How many motion pictures of the World War were taken? E. P. C.

A. The Signal Corps says that approximately 1,000,000 feet of film were taken during the war.

Q. Why do the wheels on automobiles seem to turn backwards in the movies? P. M.

A. Motion pictures are in reality a combination of still pictures. The first picture of the automobile shows the spokes of the wheels in one position. If the next exposure of the film were made when spoke number one had advanced far enough to be in the position of spoke number two, the picture would show no motion, as spokes are identical. If spoke one had advanced less than half way to position of spoke two, the forward motion would be noticed. If, however, spoke one advances more than half way to the observer it would have the effect of spoke two moving backward, as that distance would be shorter and the apparent motion would be in that direction.

Q. Is Estelle Taylor Jack Dempsey's first wife? A. L.

A. Jack Dempsey had been married before.

Q. How is a movie made? B. M. W.

A. There are six stages in the preparation of a moving picture. First, its story is purchased from the author; second, it is adapted to the screen by a continuity writer; third, the director and the cast are chosen; fourth, it is photographed; fifth, it is assembled in crude form and equipped with subtitles; sixth, it is edited and cut down to the required length.

Q. Has Will Hays' contract been renewed? A. C. T.

A. Will H. Hays, President of the Motion Picture Producers and Distributors of America, Inc., has a renewal contract for ten years, expiring in 1937.

Q. Who was the little girl who played she was a little boy in The Keeper of the Bees? W. A. C.

A. The Little Scout in the movie, The Keeper of the Bees, was played by Gene Stratton Porter's grand-daughter, Gene Stratton.

Q. Are the children who are acting in the movies able to keep up in their studies? F. S.

A. The studio children of Hollywood are under the supervision of the Board of Education of Los Angeles. Teachers in the studios must be satisfactory to the Board, but their salaries are paid by the motion picture companies. The average school attainment of the studio children is found to be 17 per cent above that of the regular public school children. While the producers may use these children four hours a day, their motion picture work does not average an hour a day. One hour of supervised recreation and three hours in the classroom are required.

Q. Where was the Battle of Trenton in the movie, Janice Meredith, taken? V. R.

A. The Battle of Trenton was screened at Plattsburg, New York, and the 26th Infantry played the part of the American soldiers.

Q. Does the film of a motion picture stop in front of the lens for each photograph? T. N.

A. The film stops each 1-32 of a second when the camera is being operated at a normal speed.

Q. Is there any religious organization that is producing motion pictures? J. O. H.

A. A religious motion picture foundation has been endowed by William E. Harmon with $50,000 for its first year's activity as a producer of films to be used as religious propaganda. Miss Mary Brady, secretary of the Harmon Foundation says "The new company is not out to preach denominationalism or to further the interests of any one creed. Nor are the pictures intended to take the part of church services but to sup-

plement them. George Reid Andrews, chairman of the department of religious and educational drama of the Federated Council of Churches, who is general manager, plans to gather about him prominent men and women from all parts of the country as advisers. We do not know at this time just how the pictures will be produced. And we have not yet selected a scenario to be filmed."

Q. What is meant by the aerial image in moving picture projection? P. McK.

A. The aerial image at the shutter location in a motion picture projecting machine is the imperfect image of the light source formed by the condenser lenses; and the shutter is located in this position because it is the most efficient location. The cross-section of the cone of light is of smallest area at this point, permitting the use of the narrowest possible obscuring shutter blade hence resulting in the greatest available amount of light reaching the screen.

Q. Is it true that Harold Lloyd, the movie actor, has an artificial arm or hand? W. E. A.

A. Harold Lloyd lost his thumb and forefinger and part of his hand while he was posing for some comic photographs. He had a real bomb in his hand which the property man had given him through error, and this exploded, blowing up the photographer's studio and injuring Lloyd's hand.

Q. Is a film preserved of each motion picture released? P. C. M.

A. The negatives of motion pictures are held in storage vaults for further prints. Prints are made from these negatives and are used until they become worn when new prints are made from the negatives.

Q. Please name the different lights used in a motion picture studio. C. M. R.

A. One studio lists its lights as follows: K-L-I-E-G-L (Spots only); W-O-H-L (Tilts); W-O-H-L (Broadsides); COPPER-HEWITT L Blanks (Overheads-Goosenecks); High Intensity Arcs (G-Electric-15 Q Amp); Sunlight Arcs.

Q. How much does it cost to produce a five-real movie? S. E.

A. It usually costs from $50,000 to $125,000.

Q. How tall was the giant that played in a movie with Harold Lloyd? D. G.

A. John Aasen, the man who played with Harold Lloyd in one of his recent pictures, weighs 460 pounds and is 8 feet 9 1-2 inches tall.

Q. How old is Jackie Coogan? J. T. C.

A. He was born October 26, 1914.

Q. How old is Charlie Chaplin? W. O. H.

A. Charles Chaplin was born in England in 1888.

Q. Were any of the scenes in The Hunchback of Notre Dame taken in France? W. A. T.

A. All the photography in making the picture was carried on in Universal City, California.

Q. How much money is received in royalties for films shown abroad, and what is paid for foreign films? C. M.

A. In the last six years motion picture royalties have amounted to at least $300,000,000, while foreign films have cost $1,000,000 for exhibition here. Last year Europe paid the most, $52,000,000; Latin America next, $7,500,000; Canada, $3,500,000; Asia and rest of world, $12,000,000; making a total for 1925 of $75,000,000.

Q. How fast does motion picture film run? W. G. L.

A. About sixty feet a minute.

Approximately ten words of a title require six feet of film.

Q. Where can educational films be procured free of cost? M. W. W.

A. Government bureaus which lend educational films free or for a nominal cost are — Department of Agriculture, Motion Picture Section; Department of the Interior, National Park Service; Surgeon-General's Office, Army Medical Museum; Department of the Interior, Bureau of Mines; and the Department of Labor, Children's Bureau. All these Departments are in Washington, D. C.

Q. Is Samuel Goldwyn a foreigner? H. J. L.

A. Samuel Goldwyn (Surname changed from Goldfish) was born in Warsaw, Poland, 1882; naturalized a citizen in 1902 in the United States, educated at night schools, organized the Jesse L. Lasky Photoplay Company in 1913, organized Goldwyn Pictures Corpn. in 1916.

Q. What is the name and nationality of the man who played the part of Julio in the motion picture, The Four Horsemen of the Apocalypse? I. M. C.

A. Rudolph Valentino, who took the part of Julio Desnoyers in The Four Horsemen of the Apocalypse, was a native of Castellaneta, Italy. He died in New York, August 23, 1926.

Q. Has it ever been estimated how much silver is used in making moving picture films? A. S.

A. In 1925 the amount totaled 156 tons almost one-twelfth of all the silver bullion mined in the United States.

Q. What is Antonio Moreno's real name and nationality? E. M. R.

A. Antonio Garrido Monteagudo Moreno was born in Madrid, Spain.

Q. How long do distributing companies have the rights to motion pictures and what becomes of the films afterward? E. S.

A. A distributing company for motion pictures usually has a lease on films ranging from three to five years. After a picture has been shown all over the United States the distributor keeps it in his office until his lease expires. After that time it is returned to the producer. However, the film deteriorates and is usually torn or in some way unfit for future use.

Q. How many feet of film for motion pictures are made each year? G. A. W.

A. The manufacturers turn out about 65,000,000 feet of motion picture film a month. This amounts to 150,000 miles a year—enough to wrap around the earth more than six times. In 1895, the first year that the film was produced commercially, only a total of 21,663 feet was made.

Q. What story was Broken Blossoms taken from? F. W.

A. D. W. Griffith developed this picture from a story by Thomas Burke, called The Chink and the Child. This was taken from a collection of short stories called Limehouse Nights.

Q. How many people have stock in motion picture companies? M. M. L.

A. Almost 60,000 people own stock in movie concerns, amounting to 11,331,394 shares.

Q. How long will a motion-picture film last? G. M.

A. It is thought that a roll of negative film, kept at proper temperature, with a certain degree of humidity, would be in good condition at the end of 200 or 300 years. It might last indefinitely.

Q. Where were the ice pictures taken for Way Down East? A. R.

A. They were made at White River Junction, Vt.

Q. When did Lon Chaney appear first upon the screen? P. R. A.

A. In 1912, he made his screen debut as a slapstick comedian in a Universal production.

Q. How much is spent annually in the United States in making moving pictures? M. G.

A. About $150,000,000 a year.

Q. What was the first movie in which Ronald Coleman appeared? W. W. T.

A. It was The White Sister in which Lillian Gish starred.

Q. What per cent of the motion pictures are made in America? R. H.

A. The United States makes 90 per cent of the motion pictures in the world.

Q. How does the speed at which a movie camera is turned in shooting a picture affect the picture on the screen? K. A. P.

A. Slowing up the camera speeds up the action. Therefore, if the crank of a camera is turned slowly, the action on the screen appears rapid.

Q. Are there any motion pictures taken in the United States with all Chinese casts? G. E. G.

A. There is at least one company on the Coast, which releases films taken with a cast made up entirely of Chinese.

Q. How many prints are made of motion pictures? E. L.

A. The number varies. For Peter Pan 165 prints were made in order that the picture could be shown simultaneously in a great many places. Usually about half that number of prints are made.

Q. What is done with old and worn out pictures? B. O.

A. Old and worn out prints are sold for the silver which can be recovered from the coating of emulsion upon them.

Q. What is the part of a motior picture camera that revolves between the lens and the film? C. P.

A. It is called the shuttle.

Q. Is it real ice that we see in motion pictures that are not newsreel features? A. D.

A. Sometimes it is real ice. Often it is paraffin.

Q. What is Pola Negri's real name? E. G.

A. Her name is Appolinia Chalupez.

Q. Does the location of a motion picture theater increase the value of land around it? J. H.

A. According to estimates of realtors the land adjoining 27 principal theaters in Chicago has increased $75,000,000 in value.

Q. How old is Betty Bronson? F. T.

A. She was born November 17, 1906.

Q. What nationality is Tom Mix? S. K.

A. He is an American. He was born in Mix Run, Pa.

Q. What was the first long photoplay? B. B. N.

A. The first long moving picture film was the Great Train Robbery, 800 feet long. Two other early long feature pictures were Cabiria and the Birth of a Nation.

Q. In what part of the United States were Dorothy and Lillian Gish born? L. T.

A. The Gish sisters are natives of Ohio.

Q. Do many of the movie stars change their names?

A. Yes, because euphonious names are important to the player. Mary Pickford's name was Gladys Smith; Mary Astor's was Lucille

Langhanke; Mae Murray's was Marie Adrienne Koenig; Colleen Moore's was Kathleen Morrison; Agnes Ayers' was Agnes Hinkle; Theda Bara's was Theodosia Goodman; Bessie Love's was Juanita Horton; Richard Dix's was Richard Bremmer; Lew Cody's was Lewis Cote; Julian Eltinge's was William Julian Dalton; Billie Dove's was Lillian Bahny.

Q. Is it true that the dogs appearing in the movies draw high salaries?

A. The principal dog stars receive from $1,000 a week, downward. The pay envelope of a trained canine never contains less than $150, or about $20 a day, as compared with $7.50 meted out to the human extras.

Q. Do slow motion pictures serve any practical purpose? F. A. N.

A. They are valuable in many kinds of educational and scientific films, like those relating to growth of plant life and natural history. In certain industries apprentices are taught the intricacies of rapidly moving machinery by means of such films. In the field of sports slow moving pictures are employed to demonstrate correct movements and postures. During the World War the United States soldiers acquired the greatest speed in adjusting their gas masks as a result of being shown slow motion pictures of the process.

Q. What movies have been made in color? I. M. G.

A. The Glorious Adventure was the first full length photoplay to be made entirely in color. Others were, Toll of the Sea; The Ten Commandments, Wanderer of the Wasteland, and The Vision.

Q. Is it true that Viola Dana and Shirley Mason are sisters? J. M.

A. They are sisters and their real name is Flugrath.

Q. Were the movies of any special value in carrying on the war? O. A. S.

A. Aeroplane photography was greatly developed during the World War because of its military value. Moving pictures were made to record the effects of shell fire, enemy operations and strategic positions.

Q. How are movies made of fish and submarine plants? M. A.

A. Such pictures are made by placing the camera in a watertight compartment, which is lowered into the water.

Q. What is the phono-film? A. H. R.

A. It is film on which both the pictures and the sound of the human voice are photographed at the same time. Dr. Lee de Forest made a complete record of the musical score of The Covered Wagon and reproduced it on the film itself, so that the picture might be shown with its own musical accompaniment.

Q. How old is Nazimova? N. R. T.

A. She was born in Russia in 1879.

Q. Are movie stars insured? A. S. R.

A. Mary Pickford, Douglas Fairbanks, Lillian Gish, Gloria Swanson, Ronald Colman, Vilma Banky, and practically all the big stars are now insured for large sums.

Q. Who was the man who wrote, directed and acted in a picture? M. H.

A. Eric von Stroheim wrote Foolish Wives, directed it, and also played the leading role.

Q. Where was Thomas Meighan born? W. S. R.

A. Thomas Meighan was born in Pittsburgh, Pennsylvania, April 1879.

XLV

MUSIC

Q. How much do rehearsals of great orchestras cost? F. M.

A. It has been estimated that they cost $10.00 a minute.

Q. Why are electric lights kept burning around pianos at the sea shore? M. E. A.

A. The electric lights counteract the effect on the piano of the damp salt air.

Q. Was Adelina Patti the highest paid prima donna on the operatic stage? W. F. W.

A. She received very high prices for her performances and is said to have earned in the course of her life, $5,000,000. Although the question of salary is a private one, it is reasonable to believe that Patti was one of the highest paid artists, if not the highest, on the operatic stage.

Q. What musical instrument did Benjamin Franklin invent? M. A. S.

A. In 1762 Franklin invented the harmonica, a musical instrument formed of a number of glasses of water and played by touching them with a dampened finger. The less the quantity of water the lower the tone of the scale.

Q. To whom should a new composer send his songs for publication? O. N.

A. The Music Industries Chamber of Commerce says that any legitimate publisher who has recognized songs on sale in established music stores will give some consideration to songs of the type with which he has been most successful, but publishers are not looking for the work of amateurs, or for song poems without music or for songs for which the music has been ground out to order by song sharks.

Q. In playing exercises on the piano how many notes are played in an hour? F. B.

A. Paul Kursteiner in the Etude has a computation based upon Czerny's Opus 740. He says that when the metronome is set at 132, playing four notes to the tick, in an hour 31,680 notes have fallen from the fingers.

Q. What was the first waltz ever composed? T. L. G.

A. It is said that Ach du lieber Augustin, composed in 1770, was the first waltz.

Q. Is America sung to the tune of God Save the King? H. E.

A. America and God Save the King are sung to the same air. It is an ancient tune, said to be found in the music of many peoples. Almost every country has set words to it.

Q. What is the oldest hymn? A. P.

A. The oldest Christian hymn known is one credited to Clement of Alexandria and composed probably about the year 200. Henry M. Dexter has given a free paraphrase of it in his "Shepherd of tender youth" which is widely used in many hymnals.

Q. Was Beethoven ever a violinist? G. S. P.

A. Beethoven was a violinist and organist and he also played the clavier and viola.

Q. How do saxophone players make the instrument seem to laugh? M. H.

A. It is difficult to explain through the medium of words. Saxophone players expel the breath in a quick, jerky movement in the way that the breath is expelled when one laughs. At the same time that they do this, they hold the mouth-piece close to the lips.

Q. Please give a list of Civil and Revolutionary War songs. J. J. R.

A. Some Revolutionary War songs were Yankee Doodle, How Stands the Glass Around, Hearts of Oak, The Fate of John Burgoyne, The Yankees Return from Camp, The Song of the Vermonters—1779, Hark! Hark! the Sound of War is Heard. Among the popular songs of the Civil War were: Tenting on the Old Camp Ground, All Quiet Along the Potomac, The Girl I Left Behind Me, We are Coming, Father Abraham, Dixie, Yankee Doodle, John Brown's Body.

Q. Is the original copy of Dixie in existence? M. W.

A. An author's copy of Dixie has been presented to Cornell University. The original copy was stolen from the composer and this one made later.

Q. When did the choir of old Trinity Church, New York first appear in vestments? P. G.

A. The choir so appeared for the first time on Sunday, October 14, 1860. The occasion was the service attended by Albert Edward, Prince of Wales, accompanied by his suite. The vestments had been given to Trinity some time before, but certain influential members of the church had prevented their use.

Q. How much did Jenny Lind realize from her concert tour under P. T. Barnum's management? T. R.

A. Her net receipts from the concerts were $176,675.09.

Q. What instrument produces a greater volume of sound for its size than any other musical instrument? W. W.

A. A writer in The Youth's Companion says that the smallest member of the organ family, the accordion, has this distinction.

Q. What is a philharmonic and a symphony orchestra, and what is chamber music? E. J. M.

A. The word philharmonic is from the Greek, meaning loving harmony. The word symphony means full tone. Either may be applied to an orchestra which gives elaborate programs, arranged for the full number of musical instruments to make a complete harmony. Chamber music is usually more simple and adapted to a few pieces which are more often stringed than wind instruments.

Q. Are blue songs older than jazz? B. W. H.

A. Blue songs had a vogue in the southern central states many years before jazz was known. The nature of the song is all that the name implies. It is in the same category as the spiritual and the jubilee heard so frequently through the South.

Q. Where did Victor Herbert receive his musical education? C. H. H.

A. An Irish lad, living in England, he was sent to Germany for his musical education. He studied at Leipzig, Munich, Berlin and Stuttgart, finishing under Raff and Reinecke. He came to the United States in 1886 and remained here.

Q. What is the story of the composing of Rachmaninoff's G Sharp Minor Prelude? L. E. R.

A. When asked this question,

Rachmaninoff replied, "The Prelude was composed when I was 20, and one at that age has no background."

Q. How fast should a minuet be played? M. O. C.

A. When the music is played as an accompaniment for the dance the time is slow. When played as a musical composition, the time should be faster.

Q. I have often seen the statement that at the death of Chopin the Countess Potocka sang to him some of his own compositions. What did she sing? C. W. L.

A. Franz Liszt in his Life of Chopin says that the Countess Potocka at the death of the composer sang the famous Song to the Virgin, which we are told once saved the life of Stradella, and the Hymn by Marcello.

Q. What musical composer imagined that a certain note sounded in his ears? T. T. B.

A. Robert Schumann, 1819-1856, suffered perpetually from imagining that he had the note A sounding in his ears. He was for many years subject to melancholia and on February 27, 1854, attempted suicide. He died insane in a private asylum.

Q. Was Onward Christian Soldiers written by an American? M. E. H.

A. The distinguished Anglican clergyman, Dr. S. Baring-Gould, wrote Onward Christian Soldiers.

Q. How many copies of Suwanee River were sold? J. D. G.

A. Four hundred thousand copies of Old Folks at Home, by Stephen Foster, were sold.

Q. Was Mozart buried in a pauper's grave? F. G. T.

A. Mozart died of malignant typhoid. The funeral service was held in the open air as was the custom with the poorest class. The strictest economy was observed in the funeral arrangements. Mozart was buried in a common pauper's grave, the site of which was soon forgotten. Vienna erected on the probable spot, a handsome monument.

Q. What was the last composition played by Haydn? F. E.

A. Five days before his death, Haydn was carried to his piano. He played his own Hymn to the Emperor. This was the last time he touched his instrument.

Q. When did the Marine Band give its first summer concert in the White House grounds? M. C.

A. The open air concerts of the Marine Band on the White House and Capitol grounds were inaugurated in the summer of 1854.

Q. What solution did Enrico Caruso use for a throat wash, gargle or spray before singing? W. J. T.

A. In Pierre Key's biography of Caruso, he says that the great tenor warmed up his voice with light scales and other simple exercises. The writer adds: "Then would come the inhalant; after that a pinch of Swedish tobacco, snuff to clear the nostrils; finally a gargle of lukewarm water and salt. He was then ready for a sip of diluted whiskey — and the stage."

Q. What is a balalaika? K. A.

A. This is a Russian musical instrument. It originated with the peasantry. When Peter the Great heard it, he had it introduced into the court. From his day until the fall of the Empire, a balalaika orchestra was maintained at court.

Q. Is the flute a comparatively new instrument? M. D.

A. One authority says that the flute is doubtless one of the oldest musical instruments in the world. "The primitive cave dwellers made flutes of the leg-bones of birds and other animals; a record of such

origin is being preserved in the Latin name tibia."

Q. What is the range of Ellen Yaw's voice? V. V.

A. Ellen Beach Yaw has the phenomenal range of four octaves. Who's Who in Music states that her range is from G to E^{1111}.

Q. How long has the organ been in use? R. N. W.

A. Organs have been extant since the fifth century. It is probable that the instruments then consisted of a small number of pipes—not more than ten or twelve, and the organ was held on the player's lap. As early as about 900 A.D. an organ consisting of about 400 pipes was erected at Canterbury.

Q. How many parts of a violin are there? N. N.

A. There are seventy.

Q. What wood is used for piano sounding boards? M. M. H.

A. The wood which is most often used for piano sounding boards is spruce, although white quarter-sawed oak is also used for this purpose.

Q. Name a few artists who studied to become singers or instrumentalists and later changed their fields of activity. J. M. A.

A. Mme. Galli Curci studied to be a concert pianist; Emmy Destinn began her musical career as a violinist; Hulda Lashanska was prepared to be a concert pianist. These artists are today famous singers.

Q. How long has the saxophone been used? W. B.

A. It was invented by Adolphe Sax about 1840 and officially introduced into the French Army bands July 31, 1845. It was first used in an orchestra in 1844 by M. Kastner in Le dernier Roi de Juda.

Q. How are banjo heads cleaned? H. D. B.

A. Parchment is used for the head of a banjo. Musicians usually use art gum in cleaning it.

Q. Was there ever a really great player of the harmonica? F. G.

A. Miss Marianne Davies was the first great player of the harmonica. There have been others since her day.

Q. How large is the pipe organ in the Royal Albert Hall, London? W. A. B.

A. This organ, by Willis, is one of the largest in the world. It has nearly 9,000 pipes.

Q. Of what kind of wood are good violins made? M. M.

A. The under surface or back of a violin is generally made of maple or sycamore; the top or belly is made of a soft wood, pine or fir; the neck is of maple; the tail piece and finger board of ebony.

Q. Was Lead Kindly Light written at sea? G. C. B.

A. Cardinal Newman was becalmed in the Straits of Bonifacio when he wrote this hymn.

Q. For what special purpose was the bucina used? F. T.

A. This Roman musical instrument was the chief one used for martial purposes. By it, the movements of troops were directed.

Q. Where was the first piano manufactured in the United States? K. D. S.

A. John Behrent made the first pianoforte in Philadelphia in 1775.

Q. Is it possible to imitate the famous old violins so cleverly that experts are deceived? E .E. S.

A. It has been supposed that experts could tell the fine old instruments from their modern imitations. Professor F. J. Koch, physicist and musician of Dresden, Germany, is reported to have duplicated world-famous Stradivari violins so successfully that in re-

cent tests a group of Italian musicians was unable to distinguish between their tones and the tones of his instruments.

Q. What will dissolve dragon's blood used for staining violins? D. F. L.

A. Dragon's blood is soluble in alcohol, amyl alcohol, benzene or chloroform. It is less soluble in turpentine.

Q. What make of piano did Wagner use? M. P. H.

A. For ten years he used a Bechstein grand piano presented to him by Ludwig II of Bavaria in 1864. This piano was discovered in Berlin by an American soldier while serving in the World War and has been placed on exhibition.

Q. How long does it take to make a piano? F. A. L.

A. It takes about six months to build a piano, and the wood used for the sounding board and some of the parts is seasoned in the open air from three to five years.

Q. How long did it take Antonio Stradivarius to make a violin? G. T. K.

A. One authority says that Stradivarius usually completed a violin in a week.

Q. Why is a piano called a pianoforte? S. L. L.

A. The original name was pianoforte. It is an adaptation of two Italian words, piano meaning soft and forte meaning loud or strong. It was evidently applied to the instrument because it describes its possibilities of tone.

Q. Which is harder to blow, a saxophone or a trumpet? S. I. W.

A. A trumpet is harder to blow. A saxophone, however, is harder to handle in fingering.

Q. Is the saxophone used in military bands? D. S.

A. As long ago as before 1850, the saxophone was officially adopted as an instrument in use in French military bands. The saxophone is used in practically all military bands.

Q. Has paper or cardboard ever been substituted for metal in constructing a pipe organ? C. M.

A. The Etude says that an organ of 1,400 pipes made of cardboard instead of metal is in use in the Church of the Incoronata of Milan. These pipes are said to be wonderfully fashioned, and are made after the ideas of Father Giovanni Crespi Rigghiso, a learned Italian chemist.

Q. Were any of Stradivari's sons violin makers? W. M.

A. Only two sons of Stradivari embraced their father's profession. These were Francesco, born February 21, 1671, died May 11, 1743, and Omobono, born November 14, 1679, died June 8, 1742.

Q. Is there any fact back of the old song, London Bridge is falling down? E. J.

A. The song, London Bridge is Broken Down was first sung while this bridge was in a broken down state. Many bills proposing repairs were introduced at this time and the public was very enthusiastic.

Q. What is the difference between a carillon and a chime? I. U. B.

A. The word carillon should be used to indicate the musical instrument consisting of about three or four chromatic octaves of perfectly attuned bells, played by both hands and both feet by means of a keyboard and pedal board. A chime is made up of from six to sixteen substantially diatonic bells.

Q. Who wrote more popular hymns, Isaac Watts or Charles Wesley? D. S. A.

A. In a list of one hundred widely used hymns, Charles Wesley

appears as the author of nine and Isaac Watts as the author of five.

Q. How old was Josef Hofmann when he made his first success in New York City? A. B. M.

A. He created a sensation in New York in the winter of 1887, when he was but ten years of age. That year he gave fifty-two concerts in America. His health failed and he returned to Europe and retired for six years.

Q. Will one used to playing an upright piano find it difficult to play on a grand? A. G. N.

A. The Etude says that from a performer's point of view there is practically no difference in action between an upright and a grand piano. Without any change in method, one can play with the same facility on the one as on the other. There is no difference in the use of the pedals.

Q. Who is considered the father of English hymns? D. H.

A. Isaac Watts is generally credited with being the father of English hymnody.

Q. Is the Strad or Cremona the better violin? N. N.

A. Cremona is the name of an Italian village where many famous violin makers worked. Among them were Stradivarius, Guarnerius, Amati and Bergonzi. The violins made by all of them are called Cremonas.

Q. Who invented the violin? R. W. K.

A. Gaspar da Salo was the supposed inventor of the four-stringed violin. Information concerning this celebrated maker is of the slightest kind. The period when he made his instruments is given as between 1550-1610. Gaspar da Salo made but few violins. He was essentially a maker of viols. He also made accordos, violinos and tenor viols.

Q. Who wrote God Be With You Till We Meet Again? M. E. C.

A. This hymn was written in 1882 by Dr. J. E. Rankin and was first sung in the First Congregational Church, Washington, D. C., of which Dr. Rankin was pastor. He was also at that time president of Howard University.

Q. Can you suggest a way of cleaning a violin? M. P.

A. To clean guitars, violins, etc., mix equal quantities of linseed oil, turpentine and water. Shake well to form an emulsion or cream. Rub the instrument with a cloth dampened in this cream, wipe dry and polish with a woolen cloth, chamois or velveteen.

Q. What musical instruments were used by the Egyptians? S. D. T.

A. The Egyptians attained some skill in music. They possessed such instruments as the harp, the pipe, the guitar, trumpet and drum. The last two inspired the Egyptian soldier on the march.

Q. Did the Scotch invent the bagpipe? C. A. H.

A. The bagpipe is said to have been introduced into Scotland by the Norsemen. It is of very ancient origin, as representations of it are to be found on Grecian and Roman sculptures, and it has long been well known among various eastern nations. The Italians have a form of bagpipe that is more simple than the Highland and Irish.

Q. What musical instruments did the Greeks and Egyptians use? T. T.

A. The lyre, the flute, the trumpet or horn, and the cithara were used by the Greeks. The Egyptians used the flute, the sistrum, the lyre and the harp. The harp, in many instances, had 15 strings.

Q. Did Jenny Lind follow the score closely when singing? H. F. C.

A. It is said that she usually

improvised the cadenzas she employed. Her coloratura work was exceptionally good and the cadenzas in exquisite taste.

Q. What was the remark that Dr. Lyman Abbott made about Jenny Lind's singing? A. C. S.

A. He said: "It was impossible to doubt the Resurrection while she was singing 'I Know That My Redeemer Liveth'."

Q. How many tunes have been written to America the Beautiful? T. B. H.

A. Over sixty musical settings of this hymn have been written. It is also sung to many familiar hymns—that which is found in most hymn books being Materna.

Q. What does melisma mean? J. E. O'B

A. A melisma is a piece of melody, a song or tune, as opposed to recitative or musical declamation.

Q. What is chamber music? M. H. D.

A. H. E. Krehbiel says: "In a broad sense, but one not employed in modern definition, chamber music is all music not designed for performance in the church or theater." The critic adds that it is "a kind of music which, because of its chastity, is set down as the finest form of absolute music."

Q. How often does the Amsterdam Symphony Orchestra play? A. B. R.

A. This orchestra, which is generally regarded as the finest symphony orchestra in Europe, plays about 140 times each season and then visits the European capitals.

Q. Is an overture called such if played at any other time than before an opera? F. F.

A. An overture is often played in a concert. This musical composition is usually a combination of the melodies contained in an opera or oratorio, and is used before it to prepare the audience and influence its mood.

Q. What is the sign designating the key note in music? E. G.

A. The word is ison.

Q. When was the Blue Danube first played? W. W.

A. The Blue Danube Waltz of Johann Strauss was first played at the Dianasalle, Vienna, on February 13, 1867. In the same season it was given at the Paris Exposition, with Strauss conducting. In that autumn it was heard in London at the Covent Garden Promenade Concerts. At Vienna and Paris it was given in its original form, for orchestra and chorus, but in London, after some three weeks' rehearsal, Strauss decided to dispense with the chorus, so that it was performed by orchestra only.

Q. Are there sixty-fourth notes in music? F. W. R.

A. There are sixty-fourth notes in music. They are called hemidemisemiquavers or semidemisemiquavers. Such a note is written with a stem and four pennants.

Q. Why did Caruso often attend services in synagogues? C. E. S.

A. Caruso is quoted as saying: "I have discovered that the Jewish chanters employ a peculiar method of intonation and vocalization in their service. They are unexcelled in the art of shifting the melody, of picking up a new key, of modulating their ritual chant, and of overcoming vocal difficulties that may occur in the words rather than in the melody itself. For this reason I visit Jewish synagogues whenever I have the opportunity."

Q. Where did the waltz originate? H. D. A.

A. The waltz is of French origin, but was adopted and modified in Germany so that it is usually identified with that country. It

became popular on the continent early in the nineteenth century and was introduced into England in 1812.

Q. When was the first glee club formed? L. T.

A. In 1787 a glee club was formed in London, which flourished until 1857. Since this style of music which was peculiar to England was not written until the middle of the eighteenth century, this glee club was probably the first of any importance.

Q. When should r's be rolled in singing? L. S.

A. The Etude says that adhering strictly to musical and phonetic rule, the rolling of the R, whether long or short, is invariably on the first syllable of the word and accentuated if it falls on a musical accent, but not prolonged on the second or third syllable, unless followed by a vowel, then a short roll is used, unless, as before stated, it falls on a musical accent.

Q. Frank LaForge seems to play accompaniments without notes. How large a repertoire has he? H. O. R.

A. It is said that he remembers more than 3,000 musical compositions.

Q. What are the duties of the drum major and band master when an Army band is marching? M. V. S.

A. An Army band drum major leads the band in all parade formations and conducts all marches. He has full charge of the band in all drills and parades. He does not play any instrument. The Army band master marches to the right of the band with his conducting baton. He does not play any instrument.

Q. Who first called musical studies etudes? I. E.

A. The name was first used by J. B. Cramer in his opus 50, the famous 84 studies for pianoforte, published in 1810.

Q. What is the music struck on the hour, half and quarters by the Westminster Chimes? E. A. V.

A. The chimes used in the Westminster clock are the same as the Cambridge chimes, which are founded on a phrase in the opening symphony of Handel's air, "I Know That My Redeemer Liveth," and arranged by Dr. Crotch for the clock of Great St. Mary's, Cambridge.

Q. What is the national hymn of Canada? G. T.

A. The Maple Leaf Forever, words and music by Alexander Muir, is the national hymn of Canada.

Q. How was the Rock of Ages written? H. N. W.

A. According to the story, Wesley, the great leader and hymn writer, and Toplady, the Anglican churchman met and were drawn into a very heated argument over some current theological questions. They argued until long after midnight. Neither yielded a point. When they separated, Toplady was wrought up to a high state of spiritual excitement. Not being able to sleep he sat and thought. In a moment of exaltation the words of the hymn, Rock of Ages, began to come to his mind. He began to write. Before dawn he had produced this master hymn.

Q. Did Schubert compose rapidly? F. F.

A. In one period of two years, Schubert wrote 239 songs.

Q. Who wrote Tramp, Tramp, Tramp? P. S.

A. The words and music were written by George F. Root. Prior to the Civil War he had written songs which became very popular. When the war began, Dr. Root, says one writer, was deeply

affected by public events and produced many war songs.

Q. What royalty is usually paid to composers of popular songs? J. J.

A. Two cents a copy is the usual royalty. After the Ball is said to have brought a royalty of $100,000 to its composer, Charles K. Harris.

Q. How many hymns did Luther write? D. C.

A. Martin Luther is credited with 37 hymns. Of these, Ein Feste Burg is regarded as his masterpiece.

Q. What is meant by the burden of a song? K. G. V.

A. Bourdon is the drone of a bagpipe. The burden of a song is the running accompaniment or repetition of musical sounds or words.

Q. Why is an oratorio so called? L. O. T.

A. Because music of this type was originally given in the Oratorio (Oratory) of the church, rather than in the body of it. Filippo Neri (1515-95) used to conduct religious services in which were portrayed Scriptural subjects developed in musical plays. These were services apart from the regular religious meetings and were held in the Oratory.

Q. Who was the first singer to sing Home, Sweet Home? D. K. C.

A. Miss Marie Tree first sang the song in the opera, Clari, or The Maid of Milan.

Q. What was the origin of the old custom universally practiced, of dividing a choir in two? F. T. C.

A. Adrian Willaert, founder of the Venetian school of music went to Venice to live in 1526. He was made chapel master of the church of Saint Mark which had two organs facing each other. This circumstance led Willaert to divide his choir in two. He thereby established a custom which ultimately became universal.

Q. What was the range of Calve's voice? W. F. W.

A. Emma Calve was classified as a dramatic soprano. Her voice was sfogato of 2 1-2 octaves from G to C⁻, perfectly even throughout, with a contralto-like low register. Mme. Calve retired from the stage in 1910 and is now living in France.

Q. What cities have campaniles with bells? J. D. B.

A. An official of the National Carillon Association says that "while the following may not be a complete list of the cities in which worth-while campaniles with carillons may be found, I think there are no others of any considerable importance. The largest is of course the new carillon of 53 bells presented by Mr. Rockefeller to his church on Fifth Avenue, New York. There are no others anywhere near this number of bells as yet. At Gloucester, Massachusetts, is a good set of bells, I think 35 in number. Another tho perhaps of lesser number is located at Cohasset, Massachusetts. There is a fine carillon at Morristown, New Jersey, which I believe is presently to be increased to 35 bells, and a smaller one of like quality at Birmingham, Alabama."

Q. How was the drum introduced into Europe? J. T. R.

A. The kettledrum, which is one of the various percussion instruments peculiar to all peoples, was probably brought to Europe by returning Crusaders.

Q. When did Dr. Matheson write O Love That Will Not Let Me Go? W. W. H.

A. The clergyman has recorded that he wrote the hymn on June 6, 1882. He believed that the work was completed in five minutes.

XLVI

ORGANIZATIONS

Q. What are the duties of the Red Cross? A. M. C.

A. The American National Red Cross is a volunteer society chartered by Congress, whose purpose is to furnish volunteer aid to the sick and wounded of armies in time of war, and to carry on a system of national and international relief in time of peace in mitigating the sufferings caused by pestilence, famine, fire, flood and other great national calamities.

Q. Where was the first Chamber of Commerce organized in this country? F. I. T.

A. The New York City Chamber of Commerce organized in 1768 and incorporated under a royal charter from King George III in 1770, was the first institution of its kind in the United States.

Q. Where was the American Legion organized? F. M.

A. It was organized in Paris, France, in 1919, and is composed of men and women who served honorably in the armed forces of the United States in the World War.

Q. What Presidents were members of the Masonic Fraternity? M. A. S.

A. The following Presidents were Masons: George Washington, Andrew Jackson, James K. Polk, James Buchanan, Andrew Johnson, James A. Garfield, William McKinley, Theodore Roosevelt, William H. Taft and Warren G. Harding.

Q. What is the meaning of the pin worn by members of the Traveler's Aid? F. C.

A. The lone pine in the desert adopted by the Traveler's Aid symbolizes rest and relief to weary or lost travelers.

Q. What lines of business were followed by the four men who started the Rotary Club? C. C. H.

A. Three were business men—one a coal dealer, one a merchant tailor and one a mining operator. The other was a professional man—a lawyer.

Q. What are the colors and flower of the fraternity of which Mrs. Coolidge is a member? G. N.

A. Mrs. Coolidge is a Pi Beta Phi. The colors of the fraternity are wine red and silver blue. The dark red carnation is the fraternity flower.

Q. How old is the American Federation of Labor?

A. The American Federation of Labor dates from November 1881, when the Federation of Organized Trades and Labor Unions of the United States and Canada was formed. The American Federation of Labor as such did not come into existence until 1886, but in 1889 it acknowledged the continuity of its existence by dating the proceedings to 1881.

Q. What organization erected the zero milestone? K. D. W.

A. This was a gift to the nation by the Lee Highway Association. It marks the "point for measure-

ment of distance from Washington on the highways of the United States."

Q. Which is the oldest legal fraternity? J. A. L.

A. The oldest legal fraternity in existence is Phi Delta Phi which was founded in the University of Michigan in 1869. Other legal fraternties are: Delta Theta Phi, Gamma Eta Gamma, Phi Alpha Delta, Phi Delta Delta (legal women), Sigma Delta Kappa, Sigma Nu Phi.

Q. Who are the Gideons? R. S.

A. They are an organization of traveling men who are banded together for the purpose of providing every hotel guest-room with a Bible.

Q. Was the Red Cross emblem suggested by the flag of Switzerland? G. R.

A. In 1863 an international conference was held in Geneva for the discussion of the rules of war, field and permanent hospitals, ambulance service, and humane care of the sick and wounded. The badge devised was the flag of Switzerland with the colors counterchanged.

Q. What do the initials F. I. D. A. C. stand for? K. K. Y.

A. They represent an organization known as Federation Inter-Allies des Anciens Combattants. Translated into English it means Allied Federation of War Veterans. The aim of this organization is universal peace.

Q. Please give a brief history of the Anti-Saloon League. E. E. A.

A. In 1892 a group of clergymen of the United States endeavored to form an anti-saloon league in which the clergymen of all denominations of the United States should participate. This did not materialize. The Anti-Saloon League of America was founded at Oberlin, Ohio, by Howard H. Russell, 1893 and in the same year in the District of Columbia.

Q. What is the organization of which General Dawes is president, whose object is to interest people in good government? F. B. L.

A. General Dawes says that the organization is the Minute Men of the Constitution. At present the association is confined to the State of Illinois. The Minute Men of the Constitution is a non-partisan organization whose purpose is to obtain delegates from Illinois to the Republican and Democratic state and national conventions, pledged to support various planks in the platforms of each party. It is a movement for a good government and has no interest in any individual or candidacy for office in either party.

Q. What are the qualifications for membership in the Ancient Arabic Order of Nobles of the Mystic Shrine? K. L. W.

A. Only Masons of the thirty-second degree of the Ancient and Accepted Scottish Rite, or Knights Templar in good standing are eligible for admission.

Q. How many Masons are there in the United States and in the world? D. E. W.

A. In 1925 there were 2,897,208 Masons in the United States. There are approximately 4,310,000 members of regular lodges in the world.

Q. How did the Chambers of Commerce originate and what is their purpose? W. H. C.

A. The Chamber of Commerce as an organization, originated on the European continent, when the old guild system was gradually done away with. The principal object of having a Chamber of Commerce was to have a body of business men who had the power to act in their community in passing upon municipal and administrative meaures in the interest of that

community. These were functions formerly exercised by the craft guilds.

Q. How old is the scholarship fraternity, Phi Beta Kappa? D. E.

A. This fraternity will celebrate its one hundred and fiftieth anniversary on December 5, 1926. William and Mary College of Virginia, where this first Greek letter fraternity was founded in 1776, is planning to raise a fund of $100,000 for the erection of a building in memory of the 50 men who effected the organization. The auditorium is expected to be a replica of the Apollo room in the old Raleigh Tavern at Williamsburg, where it is believed the society was started.

Q. What is the object of the organization known as Scapa? P. T.

A. This is the popular designation of the Society for Checking the Abuses of Public Advertising. It was founded in London for the purpose of restraining, through legislation and social influence, the disfigurement of towns and rural scenery by business announcements.

Q. What kind of an organization is the National Geographic Society? P. S.

A. It is a scientific and educational society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.

Q. Has the cooperative principle of producing, marketing, buying, and selling, etc., developed in other countries to the extent that it has in the United States? L. O. H.

A. Cooperative societies are much more developed in foreign countries than here. There are outside the United States over 60,000 societies with a membership of more than 25,000,000 persons. There are 1,472 societies in the United Kingdom.

Q. Is the United States Chamber of Commerce supported by the Government? C. B. H.

A. The Chamber of Commerce of the United States has no official connection with the Government. It is purely a voluntary organization of business men, or more strictly of business men's organizations, since it is a federation. It is controlled by its organization members. It is financed by the dues it receives from non-voting individual and associate members.

Q. What are the bars attached to D. A. R. pins? A. E. C.

A. The number of bars on the insignia pin of the D. A. R. represents the number of ancestors who rendered patriotic service to the country during the Revolution.

Q. Which State had the first historical society? G. R.

A. Massachusetts was the first to form one. It was organized in 1791 but was incorporated in 1794.

Q. What were the names of some of the early women's clubs in the United States? L. T.

A. The Sorosis Club of New York City was the first permanent women's club, dating from 1868. The New England Women's Club came into existence later the same year with Sorosis. Some of the other early clubs were the Women's Club of Brooklyn, Fortnightly of Chicago, Chicago Women's Club, and the Civic Club of Philadelphia.

Q. Who are the Stone Crabs? V. W. E.

A. This is an organization of men who spend part of the year at Belleair, Florida. A requirement for membership is five years pilgrimage to Belleair. Many magazine and newspaper writers and amateur sportsmen belong to the Stone Crabs, George Ade being at its head.

Q. When was the National Consumers' League organized? D. S. A.

A. It was organized in 1899. In order to identify factory-made articles, a Consumers' Label was adopted, which can be placed on goods made in factories maintaining certain conditions. The National League has provided for the education of purchasers through lectures, the distribution of literature, and organization. One of the most noteworthy achievements of the league has been the fixing of the attention of the public upon the overwork from which the employees of stores suffer just before Christmas.

Q. What is the International Chamber of Commerce? P. M.

A. It is a federation of financial, industrial and commercial forces of the world, modeled upon the Chamber of Commerce of the United States, for uniting business in the work of removing artificial and unnecessary obstacles to trade between nations and overcoming foreign trade resistance. It has more than 1,000 members in 25 countries, among which the United States is included.

Q. Is there a Back to Eden movement abroad in which people are required or persuaded to go without clothes? W. T. K.

A. In central Europe, and notably in Germany, there are a number of so-called nude cults, the members of which make a practice of going without clothes. Estimates as to the number of men and women identified with these cults vary from 500,000 to 3,000,000. The names of some of these organizations are: The Band of Sun Friends, The German League of Clubs for Life and Health in Conformity with Nature, Nacktkultur, and the Working Fellowship of the German Alliance of Crusaders for the Light.

Q. What kind of an organization is the American Political Science Association? C. C. H.

A. This organization was founded in 1904 to promote the scientific study of government, both on theoretical lines and in practical relationships. It deals with problems of public law, diplomacy and current political events.

Q. When was the first University Club established, and how many are there now? S. J.

A. The University Club of New York City is the oldest organization of the kind in the United States. Since its founding in 1865, about 60 similar organizations have been established.

Q. When was the first Ladies' Aid Society started? R. W. N.

A. The first Ladies' Aid Society seems to have been the one founded by Dorcas, referred to in the Holy Scriptures as Tabitha, by interpretation, Dorcas. Upon her death she was surrounded by evidences of her good works, widows and orphans showing the coats and garments fashioned by Dorcas. This is recorded in the Holy Scriptures, Acts 9, 26-40.

Q. How many members are there of the French Academy? E. T.

A. There are forty regular members of the French Academy often referred to as The Forty Immortals and in addition 10 members-at-large, from whom the regular members fill vacancies.

Q. What was the word that was applied to the movement during the War toward giving practical, inexpensive Christmas presents? F. E. B.

A. The name given to persons who during the War agreed to dispense with useless Christmas gifts was spugs, meaning Society for the Prevention of Useless Giving.

Q. How many children does the Loyal Order of Moose care for? V. M.

A. At Mooseheart, 1206 children are taken care of. Of these 100 are accompanied by their

mothers. These children are mentally and physically normal. About 150 more children who are not eligible to Mooseheart are cared for in their own communities.

Q. How old are military societies in Europe? F. S. L.

A. Military societies as organized to-day are of comparatively recent introduction in Europe. During the Middle Ages plain soldiers were not organized. Persons of noble birth in the military service of their country, however, frequently joined the military and religious orders, such as the Knights Templars and the Knights of St. John of Jerusalem, which are among the earliest orders of history. The French Legion of Honor, a general military and civil order of merit, open to all citizens of France after 25 years of service, was established by Napoleon May 19, 1802.

Q. When was the K. of C. organized? J. H. B.

A. The Knights of Columbus are organized under special charter granted by the State of Connecticut, 29th of March, 1882.

Q. What was the origin of the Order of Elks? R. D. F.

A. The Benevolent and Protective Order of Elks was founded in 1868 in New York from an older social and benevolent society, the Jolly Corks. The Grand Lodge was incorporated March 10, 1871.

Q. What constitutes a national sorority? M. N.

A. The Inter-Sorority Conference of 1905 defined a national sorority as one having at least five chapters, all of them at institutions of collegiate rank.

Q. When was the Kit-Cat Club established? K. O. K.

A. This famous London Club was founded about 1703 for the encouragement of art and literature. Originally there were 39 members, afterwards 48, and all were Whigs. The name was derived from the meeting place, the tavern of Christopher Cat, near Temple Bar.

Q. Where was the organization known as the Seven Wise Men founded? F. C. McC.

A. The Seven Wise Men, better known as the Improved Order of Heptasophs, was a secret order founded in Maryland, 1876, uniting all men of sound bodily health, good moral character, socially acceptable, engaged in honorable profession or employment between 18 and 50 years of age, to membership. It was merged May, 1918, with the Fraternal Aid Union of Lawrence, Kansas.

Q. What are the various classes in the French Legion of Honor? J. W. B.

A. They are chevaliers, officers, commanders, grand officers, and grand crosses.

Q. What is necessary in order to join the D. A. R.? M. F.

A. It is necessary to submit proof of a direct ancestor who rendered patriotic service during the American Revolution.

Q. What is the purpose of the Authors League? G. N.

A. The Authors League of America, Inc., was organized in New York City in 1912, to procure adequate copyright legislation, both international and domestic; to protect copyrightable material; and to advise and assist its members in the disposal of their work.

Q. Why is the Lucy Stone League so-called? E. H.

A. Lucy Stone was a suffragist who achieved considerable notoriety by declining to change her name upon marriage to the one borne by her husband, in accordance with common custom. A league was founded of women who preferred to retain their maiden names and was named in her honor.

XLVII

PATENTS AND COPYRIGHTS

Q. Who received the first patent in this country? H. I. K.

A. Samuel Hopkins, of Vermont, on July 31, 1790, was granted the first patent issued by the United States. It was for a process of making pot and pearl ashes. The document bore the signatures of George Washington, as President, Thomas Jefferson, Secretary of States, and Edmund Randolph, Attorney General.

Q. What great inventor was never granted a patent? L. H.

A. Benjamin Franklin, ranked as the greatest inventive genius of his age, never asked for nor received a patent for any of his inventions or discoveries.

Q. What American city is particularly noted for its inventors? R. A. N.

A. The first United States patent was granted to a descendant of a Waterbury, Conn., miller. The second was granted to a resident of Waterbury, and the number of patents now issued to people of that city is about double what might be expected from the population.

Q. Have women contributed much to invention in the United States? M. H. B.

A. According to a recent survey of the Women's Bureau it was found that 5000 patents were granted women during the 10-year period studied.

Q. What inventions have colored people made? A. L. P.

A. The Negro Yearbook gives the following: Benjamin Banneker constructed about 1754 the first clock made in America. Henry Blair was the first negro to receive a patent on an invention. In 1834 and 1836 he was granted patents on a corn harvester. Benjamin Jackson of Massachusetts is inventor of a dozen improvements in heating and lighting devices. George W. Murray of South Carolina has received patents for inventions in agricultural implements.

Q. Is it against the law to say that an article has been patented which has not been? C. P. L.

A. It is a serious offence under the law to mark an unpatented article with the word "patented" or any other word or words conveying a false idea or impression that the article has been patented. The law imposes heavy penalties for false marking.

Q. Is the incubator a modern invention? R. M. L.

A. Devices for the artificial hatching of chickens from eggs were known to mankind from the early ages. Pliny says that the Egyptians thus hatched 100,000,000 chickens in a year. The first patented invention of the modern incubator was in 1847, but practical success with such machines was not met with until 1877.

Q. If a patent is rejected by the Patent Office, is the fee refunded? W. L.

A. The first Government fee of

$20 is not refunded when a patent is refused.

Q. Have patents always lasted 17 years in the United States? A. G. B.

A. By the Act of Congress of 1790 the term of a United States patent for an invention was fixed at 14 years. Up to 1861 the original term of a patent remained 14 years with provision of law for an extension of 7 years in cases in which the inventor had failed to receive adequate remuneration from his patented invention. In 1861 by Act of Congress the right to extension was practically taken away and at the same time the life of a patent was extended to 17 years.

Q. Has anyone ever invented an auger that will bore a square hole? B. K.

A. A machine has been invented for such a purpose having a bit like that of an ordinary auger, and with a hollow square casing which has sharpened chisel edges. The auger turns but not the hollow chisel; it follows about 1-8 of an inch behind the auger bit, and throws out the corner cores.

Q. "A" claims he can make an article for his own use that is covered by a patent granted to another person. "B" says he cannot. Who is right? P. L.

A. It is against the law for a person to manufacture for his own use an article which has been patented to someone else. A person who does this is liable to prosecution for infringement.

Q. Did the invention of the cotton gin make Eli Whitney rich? C. C. C.

A. Before Whitney could secure a patent his machine was stolen and put on the market. Lawsuits in defense of his rights consumed all of his profits and $50,000 voted him by the State of South Carolina. He turned his attention to the manufacture of firearms and was the first to effect the division of labor by which each part was made separately. In this business he did accumulate a fortune.

Q. When a foreigner applies for a United States patent, can he use his own language? F. R. T.

A. When an application is made for a United States patent, all papers forming part of the application must be submitted in the English language.

Q. When did Joseph Henry invent the first electric bell? D. N. A.

A. Joseph Henry in 1831 sent a current through a mile of fine copper wire and caused the armature to be attracted and strike a bell, thereby producing an audible signal.

Q. What difference in protection or service is there in the use of "Copyright" and "Reg. U. S. Patent Office"? L. H.

A. Copyright applies only to literature, drama and the fine arts, whereas patent applies to manufactured or mechanical objects.

Q. Who invented the telephone transmitter now used? D. W. L.

A. Emile Berliner is credited with its invention.

Q. What protection do a United States patent and a British patent give? W. J. B.

A. Protection under a U. S. Patent extends throughout continental United States, Alaska, Hawaii, the Virgin Isles, Guam and the Canal Zone, and, upon compliance with certain regulations, to Porto Rico and the Philippine Islands. Protection under a British patent extends only throughout the United Kingdom and the Isle of Man. British Colonies and dependencies respectively have their own patent systems. Practically every civilized country has such a system, excepting China; in the

case of the latter, however, provision exists for the registration of patents granted in other countries.

Q. When was the umbrella invented? G. R.

A. Umbrellas are said to have been known as far back as the early days of Ninevah and Persepolis, for representations of them appear frequently in the sculptures of those early days. The women of ancient Rome and Greece carried them, but the men never did. Jonas Hanway, of London, is said to have been the first man who walked the streets of that city with an open umbrella over his head to keep off the rain. He is said to have used his umbrella for thirty years before umbrellas came into general use for that purpose.

Q. Does a patent have to be marketed in order to keep the patent rights? T. J. H.

A. A patent right does not expire in case the patented article is not put upon the market. The patentee is not required to manufacture nor sell, if he does not see fit to do so.

Q. Is "copyright—1922," attached to a newspaper or magazine article, the correct form to use for its protection? I. W. D.

A. The Copyright Law prescribes the form thus: "Copyright (insert year) by John Smith." Any person who attaches a copyright notice to his material without promptly afterwards complying with the formality of depositing printed copies with claim of copyright for registration, fails to comply wth the express requirements of the law, and cannot bring suit for infringement until he has done so.

Q. Why are so many inventions commercial failures? H. W. F.

A. Many elements enter into this. One inventor has said an invention must not only accomplish its object, but be of a character sufficiently practical to warrant its adoption, and that a necessity for such an article is its greatest asset as a commercial proposition.

Q. How long does a copyright last? M. J. M.

A. The copyright term is for 28 years, and can be renewed for 28 more.

Q. What is the name of the Patent Office Publication of Great Britain? L. D. P.

A. The official patent periodical of Great Britain is the Illustrated Official Journal, published weekly at 25 Southampton Bldg., London, W. C., price two shillings, plus postage, per weekly number.

Q. Are more patents taken out in the United States than in other countries? C. G. L.

A. About one-third of the patents of the world are taken out in this country.

Q. What is a copyright, and what is the earliest instance thereof? O. M.

A. Copyright is a right given by law for a limited number of years to the author or originator of an intellectual production, or to his assignee. It is intended to secure to him the exclusive right to his writing or other production, and to make reproductions thereof. According to Justinian, a law was passed securing to the scribes by whom books were written the property in the materials used; and in this way, perhaps, he traced the first germ of the modern law of copyright.

Q. What is the method by which a person can protect a patent for a small sum, while deciding whether it would pay to get a patent? L. W.

A. There is none.

Q. What country first granted international copyrights? F. B. R.

A. Prussia was first to take action in regard to international

copyrights, passing an act in 1836 which gave the protection of the Prussian statute to the writers of all countries which would reciprocate.

Q. Can a foreign inventor obtain a patent in the United States? N. I.

A. Yes, he can, provided a patent has not been granted to him for the same invention in some other country than the United States, upon an application therefor filed more than twelve months prior to the date of filing of the United States application.

Q. What does the Canadian Patent Law provide respecting manufacture and importation of the invention covered by a Canadian patent? D. L. L.

A. Section 40 of the Canadian Patent Act provides that if an invention is not adequately manufactured in Canada within three years from the issue of the patent, so that the reasonable requirements of the public are satisfied, any interested person may apply to the Commissioner for the issuance of an order requiring the patentee to supply the patented article at a reasonable price or to grant licenses for the use of the invention on reasonable terms. If importation of the patented invention, without adequate manufacture in Canada, is carried on after three years from the issue of the patent, any interested person may apply for the revocation of the patent on the ground that the patented article is manufactured exclusively or mainly outside of Canada, to supply the Canadian market.

Q. Is the title of a copyrighted book protected by the copyright registration so that no one else can employ it? R. A. H.

A. Neither the author nor proprietor of a literary work, whether copyrighted or not, has any property in its name. The name is a term of description, which serves to identify the work; but any other person can adopt it and apply it to any other book, provided he does not use it as a false token, to induce the public to believe that the thing to which it is applied is the identical thing which it originally designated. However, the name of a drama may become a valid trade name, in connection with the presentation of dramatic compositions. So, also, may be the name of a newspaper, or of a magazine periodically issued.

Q. Is plagiarism a legal offence? R. A. H.

A. Plagiarism consists in appropriating or copying from the work of another, in literature or art, and passing off the appropriated or copied work as original or without acknowledgment of the real ownership or source; that is to say, as one's own production. It is not a legal offence unless it occurs in the case of a copyrighted work, in which case apart from moral questions there is an invasion of legal rights consisting in infringement of the exclusive rights of the owner of the copyright. In other cases it simply is unfair and discreditable.

Q. Can a formula be copyrighted? M. K.

A. A formula, as such, is not a subject of copyright, but it can be trade-marked. Different combinations or ingredients are generally patented under a particular name or trade-mark, with the idea of protecting such a combination of materials and keeping the formula itself a trade secret. Trade-marks are issued by the Patent Office, Washington, D. C.

Q. Can I obtain a patent on a new machine in which a device that already has been patented to another inventor is combined as an element with other elements, according to my own ideas? M. R. N.

A. If you have invented a new

and useful machine which meets those requirements of the patent law that must be satisfied in the case of inventions in general in order to confer patentability, the mere fact that one element of your machine, considered by itself, has already been patented, will not necessarily stand in the way of the grant of a patent to you covering the machine. However, the grant of a patent to you upon your machine will not give you an independent right to make and use as a part or element of it something that has already been patented by another inventor. You will be liable to the patentee of the device, if you actually make the latter and apply it in building your machine, without the permission of such patentee.

Q. Can an advertising phrase be copyrighted? C. P. G.

A. Mere words or phrases cannot be registered separately for protection under the copyright laws. Thus, forms of words having mainly a special purpose, such as advertising phrases, or so-called slogans, legends, mottoes, catchwords, riddles, sign-board inscriptions, and any similar mere combination of words, are not subject to registration in the Copyright Office. Where such words or phrases are in the nature of trademarks or other identifying devices, they may sometimes be protected by general rules of law against unfair competition, but the Copyright Office has nothing to do with such protection.

Q. What is done with the original drawing of a patent? H. C. D.

A. It is stored away among the other records in the Patent Office after the grant of the patent. For inspection by inventors and attorneys engaged in making investigations a printed copy is placed in the classified sets that are kept on the shelves in the Search Room at the Patent Office.

Q. Does matter mailed to the Copyright Office have to have stamps on it? R. S. T.

A. Matter for copyright deposited with a postmaster for transmission to the register of copyrights, Washington, D. C., will be accepted for mailing free of postage and when requested a receipt therefor will be given on a form furnished by the sender. Such matter, however, may not be sent by registered mail without prepayment of the registry fee.

Q. Can a minor secure a patent? F. H.

A. A minor may secure a patent as well as a person twenty-one years old or more.

Q. Should a pen name be copyrighted? H. P. S.

A. A pen name cannot be copyrighted.

Q. When were matches invented? J. W. D.

A. In the seventeenth century Godfrey Haukwitz of England produced a substance which would ignite by friction and into which splinters of wood were dipped. This is probably the origin of the Lucifer match. In 1805 a phosphorus bottle, into which sticks or matches coated with sulphur were thrust, was invented by a man named Chancel, of Paris. The first Lucifer friction matches to be commercially developed were made by an Austrian, named Treaschel, Vienna, Austria, 1833.

Q. Why do books have copyright notices which provide for translation into all languages "including the Scandinavian"? M. H.

A. The Copyright Office says that the phrase "including the Scandinavian" sometimes seen in connection with the copyright does not involve any additional protection, since the United States law gives the copyright holder the exclusive right to translate the work into any language. Such restric-

tion, therefore, is entirely unnecessary.

Q. Who invented the catcher's mask in baseball? A. G. S.

A. F. W. Thayer, a member of the Harvard Club, in 1876 invented the catcher's mask.

Q. Does a copyright hold good in foreign countries? W. D. L.

A. A United States copyright does not. There is an International Copyright Association which includes in its membership most of the countries of Europe, also Japan. If one secures a copyright in, for instance, England, it automatically applies in all the countries in the Copyright Association.

Q. When were umbrellas first used in the United States? W. O. H.

A. They made their first appearance in Baltimore in 1772.

Q. What are the government fees in connection with a United States patent for an invention, and what is required in order to keep a patent in force in the United States and in the foreign country in which a patent may have been granted? W. G. F.

A. A first government fee of $20 has to be paid on the filing of an application for a United States patent, as a part of the application, and if the application is allowed a final government fee of $20 has to be paid in order to secure the grant of a patent. No further fees are required, and the patent runs its term of 17 years without anything more being required of the patentee. In most foreign countries, however, in addition to the government fees, which by law have to be paid with the application, and in order to secure the grant of the patent, renewal fees or annuities have to be paid regularly, and the laws require the invention that is covered by the patent to be actually worked, as by being manufactured, sold, etc., in the country of the patent.

Q. Does it cost more to get a basic patent than any other kind? P. W.

A. The Government fees are the same in all cases.

Q. I know of a clever device that has never been patented. Can I take out a patent on it? W. J. S.

A. No, because an applicant for a patent must file an oath that he was the first and original inventor of the invention for which he asks a patent. Apparently you cannot make such oath.

Q. How much royalty does a person get on an invention? J. G.

A. Royalty on an invention is a matter to be determined between the patentee and the licensee. There is no fixed rule. From 1 per cent to 5 per cent of the selling price appears to be the usual rate of return in royalty matters.

Q. How many applications were made in 1924 for patents and trademarks? T. A. H.

A. Applications for patents for inventions, designs and reissues increased from 79,689 in 1924 to 82,213 in 1925; and trademarks, labels and prints from 19,885 to 21,378. Fees collected and turned into the Treasury in 1924 amounted to $3,042,276, a figure larger by $228,977 than during any previous year in the history of the Patent Office.

Q. Who invented wall paper with the continuous repeated design? T. W.

A. Jean Papillon, the second wood engraver to bear the name, was the first to plan and execute continuous repeating designs in wall papers, matching on the sides the sheet that was placed next to it. These were first used in 1688 and were soon an established fashion.

XLVIII

PHYSICS

Q. What is the fastest thing in the world? R. H. H.

A. The Bureau of Standards says that the electron is the fastest thing known to date.

Q. Is there an altitude at which an egg can't be boiled? E. W.

A. The Geological Survey says that according to science there is an altitude at which water would not boil; however, no one has ever reached that point as it is about twenty miles above sea level. While it is not impossible to boil an egg hard at the top of Pike's Peak, it takes longer to do it. Water boils at 212° F. at sea level, but on Pikes Peak it boils at about 180° F.

Q. Will a pebble thrown overboard reach the bottom of the ocean if it is six miles deep? W. T. L.

A. The Hydrographic Office says that a pebble thrown overboard will reach the bottom of the ocean at any depth.

Q. How often should the water be changed in a hot water heating plant? E. A. P.

A. The Bureau of Mines says that the less often water is changed the better. Rusting is caused by the free oxygen in water. After water is boiled, oxygen is driven off and no more rusting will occur.

Q. Can two sounds produce silence? F. R.

A. Two sound waves meeting each other so that the condensation part of one wave meets the rarefaction part of the other will neutralize each other. Strike a tuning fork, and twirl it slowly about its axis. The sound will become faint four times in a revolution where the two sound waves from the two prongs interfere with each other.

Q. Will static electricity start a fire? M. D.

A. The American Chemical Society says that static sparks can ignite dust. Static electricity is given as a possible cause of an increasing number of explosions.

Q. Does sound travel faster when the weather is warm? M. A. R.

A. In undisturbed air, at a temperature of 32° F. the velocity of sound is approximately 1,090 feet per second. The velocity increases about one foot a second for each degree as the temperature rises.

Q. What is the best conductor of electricity? W. F.

A. Silver is considered the best conductor of electricity.

Q. Is it true that there is an instrument that will measure the heat of a candle five miles away? B. C. B.

A. The Bureau of Standards says the statement concerning the thermometer that will measure the heat of a candle five miles away is correct. There is in the Bureau an instrument to measure the heat of a single star, which is made so delicate that it is responsive to the heat of a candle several hundred miles away.

Q. What is the likelihood of a person's being struck by lightning? L. M.

A. It is estimated that only six or seven people in a million are struck by lightning.

Q. What makes electric lights flicker, get dim, and then bright again? R. R.

A. It is the variation in speed of the generators or intermittent ground somewhere on the line.

Q. Why does placing a silver spoon in a glass prevent boiling water, when poured into it, from breaking the glass? T. S.

A. The spoon conducts heat somewhat better than the water does, and this causes the water around it to be hotter than other water at the same level. It, therefore, rises and sets up a circulation in the glass, so that the water boils in the upper levels and not directly on the bottom.

Q. Is it true that a vessel of water will weigh the same when a live fish is swimming around in it as it weighed before the fish was placed in it? M. P. D.

A. If a live fish is placed in a bucket of water weighing a certain amount, the weight of the whole will be increased by the weight of the fish. If the vessel is very full of water, some of the water may be displaced, and this would have to be taken into account.

Q. How many times would an atom have to be magnified in order to become visible? W. F. H.

A. It would have to be magnified a million diameters to be seen as an extended object; that is, it is about one-thousandth the diameter of the smallest particle seen with the microscope.

Q. Why is it when one is driving pools of water seem to appear in the road ahead only to disappear and re-appear farther on? S. A. M.

A. The air next to the road bed becomes hotter than that above and the lower layer consequently reflects just as a body of water does. It is the same as the mirage seen over hot, sandy plains.

Q. Suppose yourself on an ideally smooth plane, how is it possible to get off? E. E. C.

A. The Bureau of Standards says: "If you throw something backwards, you will go forward until stopped by resistance of air. Your breath will do."

Q. Why does the pitch of a horn or bell on a fire wagon sound different when close by? T. S.

A. Sound is a series of waves in the air, and the shorter the distance between these waves the higher the pitch. The bell, vibrating at a constant rate, sends out a constant number of waves per second, which travel toward the observer with constant velocity, relative to the air. But if the bell is approaching the observer the waves are closer together, hence the pitch is higher.

Q. If a man stands at the engine of a train traveling 60 miles an hour, and shoots a gun whose bullet has a velocity of 60 miles an hour, toward a man standing at the caboose end, will the bullet hit its mark? W. N.

A. The bullet will merely fall to the ground on leaving the gun barrel. While the train is traveling at 60 miles per hour, the gun and bullet and everything else connected with the train is traveling in the same direction. When the gun is fired toward the rear, the bullet has an impulse backward or against the motion of the train, just sufficient to counterbalance its forward momentum with the train.

Q. Does a body weigh more at sea level than at an altitude of 1,000 feet? E. C. B.

A. The Geological Survey says that according to the law of gravi-

tation the force of attraction varies inversely as the square of the distance. A body, therefore, weighs slightly less at an altitude of 1,000 feet than it does at sea level.

Q. Does the upper part of a wheel move faster than the lower? A. R.

A. The Bureau of Standards says that on a moving wheel, the lowest point is stationary in relation to the ground, while the upper point is moving with twice the velocity of the center, or the same thing, a point on the vehicle itself. Therefore, the upper point moves infinitely faster than the lower point.

Q. What is the wave length of the human voice? N. A.

A. The wave lengths of sounds produced by the human voice usually are from one to eight feet, although some singers have produced notes having wave lengths as great as eighteen feet, and others have reached notes so high that the wave length was only about nine inches.

Q. Does the air from an electric fan blowing on a thermometer affect the mercury to an appreciable extent? If so, does it rise or fall? J. D. B.

A. The Bureau of Standards says that, as a rule, air from an electric fan blowing on a thermometer will have no essential effect on the mercury. If a very sensitive thermometer is placed in front of a fan it may, however, cause a slight rise in temperature inasmuch as the air which passes by the motor becomes slightly heated.

Q. Suppose a man were to jump up 2 or 3 feet into the air while riding on a moving train, would he land in the same place from which he started? C. G.

A. As far as the motion of the train is concerned, he would land at his starting place. Anything that is borne along with a moving car shares in full the motion of the car after being separated from it, unless some resistance like that of air opposes. Inside a closed car there would be no current of air to affect the man.

Q. How does the operation of an electric fan compare in expense with the burning of electric light? A. G.

A. An eight-inch electric fan takes about as much electricity as a 25-watt Mazda bulb.

Q. How often does a surveyor change his compass? L. W. K.

A. The United States Geological Survey says that a compass should be changed about one degree every twenty years. This change is necessary as the magnetic pole toward which the needle of a compass points and the North Pole are not the same. The magnetic pole shifts and therefore the change must be made in the compass to make up for the shift of the magnetic pole.

Q. What is the correct temperature for a hot bath? G. A.

A. A hot bath may be from 100 to 112 degrees Fahrenheit. A cold bath should be between 35 and 60 degrees.

Q. What is the temperature of the filaments in a lighted electric light bulb? N. A. G.

A. Their temperature is about 2,000° F.

Q. Has any study ever been made showing the effect of the temperature of a room on school children? C. H. J.

A. Superintendent Hines of Crawfordsville, Indiana, reports the following: When the temperature of the school room was 80° F., the class was restless and dull; 74° F., dull; 72° F., restless; 70° F., excellent work; 68° F., best work of the day; 66° F., splendid work; 65° F., class happy and full of energy; 60° F., too cold for good work.

Q. How much space does one cubic inch of water occupy when made into steam? A. F. P.

A. The Bureau of Standards says that one volume of water measured at ordinary temperatures will produce about 1,670 volumes of steam at the boiling point of water and atmospheric pressure. Steam behaves as any other gas, the volume which it occupies depending upon the pressure and temperature.

Q. To settle an argument, please state whether a steel plug exactly one inch in diameter would fit into a hole in a piece of steel exactly one inch in diameter. A. E. H.

A. It is possible to fit a steel plug one inch in diameter into a hole exactly one inch in diameter. In fact, it is possible to put in a plug a ten thousandth of an inch oversize if sufficient pressure is used.

Q. Why does foam look white? W. A. C.

A. The fact that foam generally appears white is due to its being composed of tiny bubbles which reflect the light from their surfaces. When white light, such as sunlight, shines upon them, they therefore naturally appear white.

Q. What is the lightest substance known? H. G.

A. Hydrogen is the lightest. Atmospheric air is 14½ times the weight of hydrogen.

Q. What are the greatest known degrees of artificial heat? E. L.

A. The Bureau of Standards says that the highest temperatures of artificial heat are attained by electric arcs, with exception of instantaneous effects of condenser discharge. Tungsten arc under high pressure of inert gas has been taken to over 5,000° F.

Q. What is meant by the absolute zero? C. K. J.

A. This has been determined by physicists as being 273° Centrigrade below zero, or 459.4° F. below zero. In this condition matter will have absolutely no heat.

Q. How warm should a house be in the winter? W. L.

A. In rooms where people are actively engaged the temperature of living rooms varies from 68° to 72°. To avoid discomfort and colds, it is wise to become accustomed if possible to the 68° and 70° temperature in preference to 72°.

Q. What movement is there to the needle of the compass at the North Pole? What direction does it point? G. H. C.

A. The Department of Research in Terrestrial Magnetism of the Carnegie Institution of Washington says in the absence of any observational data at the true North Pole, it is not possible to state to what movement, or change in direction, a compass needle at that point is subject. The north end of the compass needle at the true North Pole would point approximately towards the North Magnetic Pole, which is situated about latitude 70° .5N. and longitude 96° West of Greenwich.

Q. When and where was the watt adopted as the electrical measure? P. H.

A. The watt was adopted by Act of Congress, approved July 12, 1894, defining the legal units of electrical measure in the United States, following recommendations of the Chicago International Electrical Congress in 1893.

Q. What is the difference between alternating and direct electrical current? B. E.

A. The difference between alternating current and direct current of electricity is that while the latter is a continuous and practically constant flow in one direction in a conductor, the former is a flow first in one direction, then in the opposite direction. This alternation usually is made to occur either 25 or 60 times per second.

Q. Where is helium found? K. D. V.

A. Helium is found in various gaseous mixtures. At the present time it is found in greatest volume in some of the natural gases in the United States. The American Chemical Society says that the only place where helium can be obtained in sufficient quantities for aeronautics is in the United States.

Q. What is it that makes colors in flame? L. A.

A. Flames may be colored, and often very brilliantly, by the presence within them of certain metallic salts, such as sodium, potassium and strontium.

Q. What is a point of the compass? C. D. H.

A. It is one of the thirty-two divisions or rhumbs of the compass or the angle between two adjacent divisions equal to 11¼°.

Q. Does a suction pump actually suck the water up, or does it exhaust the air, causing the outside air to force the water up? H. J.

A. The pump exhausts more or less of the air and atmospheric pressure on the surface of the water outside forces the water up to fill the vacuum.

Q. Is there any place in the United States where the compass has no variation? F. C. F.

A. The Coast and Geodetic Survey says that there is in the United States a line of no variation of the compass which passes at present through western South Carolina and thence in a general direction of N. N. W. through Michigan. Along this line the compass needle points in the direction of true north. The line is quite irregular, as may be noted by an inspection of their isogonic chart of the United States for 1920, upon which it is shown.

Q. When was the lightning rod first used? D. V. H.

A. The first lightning rod in the world was set up by Benjamin Franklin in September of 1752.

Q. How much will a magnet lift? R. F. D.

A. A piece of hardened tool steel in the shape of a horseshoe can be magnetized to lift approximately 10 pounds per square inch. As the cross section is increased, the length must be increased proportionately to retain this strength per unit area.

Q. How much warmer are houses kept now than they were 100 years ago? H. B. M.

A. One hundred years ago 50° to 55° was considered a good house temperature. Fireplaces provided the heat in those days. When stoves came into use, about 70 years ago, the temperature rose to about 62°. With the increasing use of furnaces, some 30 years ago, a heat of 72° was quite usual. Today a temperature of 70° is considered standard.

Q. What material can be used as an insulator between two magnetic points? J. T. W.

A. There is no known insulator for magnetism.

Q. Does the south magnetic pole attract a compass needle? J. P. R.

A. While the north magnetic pole attracts the north end of the needle and repels the south end. the south pole repels the north end and attracts the south end. This is true no matter in what part of the earth the needle is placed, and there is no reversal of the needle when the magnetic equator is crossed.

Q. How much water is passed into the atmosphere from a large tree? L. T.

A. The evaporation from a large oak or beech tree is from ten to twenty-five gallons in twenty-four hours.

XLIX

PLANTS AND FLOWERS

Q. What is the most useful plant in the world? J. J. McD.

A. The palmyra palm is employed for more purposes than perhaps any other plant, upward of 800 uses being recorded for its various parts.

Q. What color predominates in flowers? C. N. O.

A. Luther Burbank said that more than half of the flowers in the world are red or some shade of red.

Q. What is the largest weed known? F. P. D.

A. The kind of seaweed known as kelp is said to be the largest, or at least the longest, in the world, sometimes attaining a length of 1,500 feet.

Q. Does sound, such as a waterfall or dynamiting, interfere with the growth of plants? J. R.

A. Sound does not affect the growth of vegetation.

Q. What flowers or plants can be used to plant an American Flag? J. S.

A. The Bureau of Plant Industry suggests red foliaged coleus, dusty miller and ageratum for the colors red, white and blue, respectively, to be used in planting the American Flag.

Q. Is there a water lily farm in the District? K. M.

A. The largest water lily farm in the United States is at Kenilworth, D. C. This farm, run by Mrs. Helen Fowler, consists of 24 ponds, constructed from 7 acres of marsh land. Seventy-five kinds of water lilies are raised, including purple lilies from Zanzibar, Indian and Egyptian lotuses, and Victoria lilies, the leaves of which are sometimes 7 feet in diameter.

Q. Do white violets grow in the United States? A. J. I.

A. They do grow in the northern part of the United States. They are known as Alba violets and Canadian white violets.

Q. What is the name of the plant used to catch fish? M. B.

A. Fishberries are the seed of an East Indian plant known botanically as anamirta paniculata. The seeds are used commonly in India for stupefying fish, that they may be taken by hand. When the fishberries are thrown into a stream, any fish in the neighborhood are quickly stupefied.

Q. Is there any State where poison ivy does not grow? W. R.

A. A chart showing the relative distribution of this plant marks no poison ivy in Iowa. It is most prolific in the States bordering on the Atlantic Ocean. The States west of the Mississippi are comparatively immune.

Q. Please name some plants that catch and eat insects. R. F. J.

A. The teasel, sarracenia, nepenthes and the Venus flytrap are some of the plants that do this.

Q. Are there regulations about

carrying plants from one State to another? P. R.

A. It is against the law of most States to carry nursery stock such as young white pine across State boundary lines without a permit or nursery certificate. Tourists who dig and transplant plants from one place to another make it difficult to control plant diseases and pests.

Q. Is there such a thing as a black rose? E. B.

A. There is a tendency among some rose growers to refer to an extremely dark red rose as black. Such a statement is not correct, and it is doubted whether anyone has secured an all black rose.

Q. What plant is known as the queen of ferns? L. D. S.

A. This name is given to the lady-fern.

Q. How many kinds of roses are there? J. A. K.

A. Most botanists recognize about 100 species of roses. The number of horticultural varieties, crosses and hybrids, however, is very large, more than 3,000 varieties being listed in French catalogues, with new ones added every year.

Q. What part of the Western Hemisphere has the most flowering plants? S. S.

A. Costa Rica, about the size of West Virginia, has the richest variety of flowering plants and ferns of any area of its size in this hemisphere. Its known flora includes more than 6,000 species. The United States and Canada, 130 times the size of the little republic, has only 16,000 species. Orchids are so common in Costa Rica that they almost fill the role of weeds, according to a botanist, who is bringing back 1,300 specimens of this flower.

Q. What is the best grass to sow for a range for poultry? P B. E. M.

A. Ordinary pasture grass, timothy grass, blue grass or clover are used for poultry ranges. The seed should be sown alone and in most instances it is sown in the summer. However, this depends on the different sections of the country. Do not crowd the grass too much but make an even range.

Q. Is mistletoe the flower of any State? W. F. P.

A. Mistletoe is the state flower of Oklahoma. It was adopted by the Legislature. Oklahoma was the first State to take legislative action in the adoption of a state flower.

Q. Should house plants be put on radiators or over registers on cold nights? T. E. M.

A. Plants should be moved away from windows and out of drafts, but should never be placed on radiators or registers.

Q. Do plants have senses? S. C. D.

A. Scientists are of the opinion that plants have senses, in that they react to a given stimulus. Not all portions of plants respond equally. There are no definite structures in them corresponding to the nerves of animals, but the conduction is mainly through active parenchyna cells, or along such living cells as the sieve tubes or companion cells.

Q. Are there roses that will grow in high altitudes? B. A.

A. Swiss mountain roses are extremely hardy and thrive above elevations of 3,000 feet. An effort is being made to transplant them to the Rockies.

Q. How many kinds of grasses are there? J. M. A.

A. There are about 6,000 distinct species of grasses in the world. Of these about 60 are important cultivated plants.

Q. Should peonies be transplanted in the spring? L. L. P.

A. It is better to transplant them in the fall. September is the best month in most of the States.

Q. What house plants are recommended for rooms receiving comparatively little sunlight? F. J. B.

A. We suggest the following: Boston fern, rubber plant, palms, umbrella plant, aspidistra, asparagus fern, English ivy and silk oak.

Q. How can Easter lily bulbs be kept? R. C.

A. Easter lilies should be allowed to die down and the bulbs removed from the pots, brushed and stored in racks in a cool cellar until fall, when they should be repotted.

Q. How should geraniums be kept through the winter? T. C.

A. The method of hanging geraniums up by the roots in the cellar is a reasonably successful way of carrying them through the winter, but is not the best procedure. The best way is to dig the plants up, put them into pots, cut off most of the tops and keep in a light window in a cool room. Another way is to put them in earth, water once, and leave them alone.

Q. What can be done for an insect that infests sweet peas? J. P.

A. In garden culture of sweet peas, a green aphis, the clover aphis, is not infrequently found, but spraying with tobacco extract, nicotine, or kerosene emulsion will usually destroy them. Plants that are frequently syringed with cold water are seldom infested with insects.

Q. How can one prevent purple lilacs from sending shoots? M. J. H.

A. There is no way to prevent this. The shoots should be cut off about twice a year.

Q. What are the life periods of plants? K. Mc. M.

A. With respect to duration of life there are three classes of plants: annuals, biennials and perennials. An annual comes up from seed, bears flowers and seeds and dies within the year. A biennial grows from a seed, but produces leaves only the first year. The second summer a flower stalk comes up, seeds are produced and the plant dies. A perennial has roots which live on from year to year unless killed. Depending upon conditions the plant may or may not produce seeds every year.

Q. Do plants give off oxygen? W. B.

A. In the process of photosynthesis in green plants the absorption of carbon dioxide is accompanied by a release of oxygen.

Q. Can tulips be grown from seeds? F. J. W.

A. This method may be followed, but the plants will not bloom until the eighth or ninth year. Usually plants are propogated by splitting the bulbs.

Q. Are cat-tails used in upholstering and mattresses? S. C.

A. Cat-tails are not used commercially in this country. In England they were used for upholstering, prior to the time that kapok was introduced from Java. Cat-tails have a disagreeable odor that is not easily removed and for that reason they are not satisfactory when used for upholstering and making mattresses.

Q. Should blossoms be left on a lilac bush after they fade, or should they be removed? V. A.

A. The Bureau of Plant Industry says that it is customary to take the blossoms of the lilac bush off as soon as they begin to decay, as some vitality is lost in forming seed.

Q. Where does a flower get its perfume? E. V. R.

A. The perfume of a flower comes from within the plant itself and arises from a volatile oil which the plant makes.

Q. How long have we had florists in the United States? R. E.

A. Growing flowers as a business was unknown in America previous to 1825 and as late as 50 years ago it was impossible to buy cut flowers in some of our leading cities. The exact date of the opening of the first florist's shop is not ascertainable.

Q. What are the national flowers of the various nations? J. R.

A. The national flowers of the different nations so far as they are official are: England, rose; Ireland, shamrock; Scotland, thistle; Wales, leek; France, lily (fleur-de-lis or iris); Japan, chrysanthemum; Italy, marguerite; Germany, cornflower or bachelor's button.

Q. Please name some unusual uses that were made of plants during the War. J. W. G.

A. Among the ingenious uses to which plants were put were: sphagnum moss—dressing for wounds; charcoal from fruit pits—used for gas masks; birch and willow pulp—used as a substitute for cotton and the nettle for making textiles; meal obtained from clover, horse chestnuts, oats, Indian corn, barley, beans, peas and buckwheat—used in place of flour; roasted barley and oats and roasted acorns and beechnuts—substitute for coffee; in Germany eventually a substitute for coffee was made from carrots and yellow turnips; bloom of the linden tree mixed with beech buds was found to make an excellent beverage; roasted peas and oats—a substitute for cocoa.

Q. How did hollyhock get its name? T. H. S.

A. Hollyhock is the garden mallow (Anglo-Saxon hoc, mallow). It is called hollyhock or holyhock, from the Holy Land, where it is indigenous.

Q. What new plants have been introduced into the United States in the last few years? O. P.

A. Explorations in southern China, Burma and Siam resulted in the collection of trees from which chaulmoogra oil, a successful specific for leprosy, is obtained, and the establishment of those trees in the American tropics. Numerous varieties of Chinese chestnuts have been imported for testing for blight resistance in the hope that they will replace the rapidly disappearing American species. Many native Chinese apples, pears, cherries, plums and roses were also obtained which, because of their vigor and hardiness, will be of special interest to plant breeders. Varieties of barley and wheat likely to prove of value at high altitudes, or for growing under dry-farming conditions in the Western States, have also been introduced.

Q. Why are some roses called tea roses? H. B. G.

A. They are so-called because their odor is like the aroma of tea.

Q. Please name several historic gardens in New England? U. G.

A. Among the historic gardens of this section are the Longfellow garden at Cambridge, Massachusetts; the Peabody garden at Salem, Massachusetts; and the Wendell garden at Portsmouth, New Hampshire.

Q. Are there any ruins to substantiate the story of the Hanging Gardens of Babylon? G. A.

A. All this is known of these wonderful gardens is what is stated in a few sentences by ancient writers, dealing largely with tradition.

Q. What value was put on the war gardens? H. D.

A. The value of these gardens to the food reserves of the country was estimated at $500,000 in 1918.

Q. What trees and flowers would be found in a reproduction of a garden in Jerusalem of about 32 A. D.? N. R.

A. Among the more prominent shrubs or small trees of Jerusalem are the olive and the almond. Other well known flowers are the narcissus (lily of the valley of the Bible), azalea, acacia, mallow, oleander, althea (sometimes known as the rose of Sharon). The flora of Jerusalem includes over 1000 specimens.

Q. Why is mistletoe bad for a tree? T. A. H.

A. The mistletoe plant fastens itself upon the tree, penetrates its tissues, and draws nourishment from it, deforming it and sapping its vitality.

Q. Where was the first botanical garden established? C. E. M.

A. One in Padua, Italy, established in 1545 is considered the first.

Q. Where were the gardens that Caesar gave to the people of Rome? S. N. A.

A. These gardens were on the southern slope of the Janiculum and were laid out by Julius Caesar in terraces supported by colonnades, with artificial glens and waterfalls. No traces of the gardens are now visible above ground, but the spot has yielded a number of important works of art.

Q. Has any city as beautiful sunken gardens as Portland, Oregon? H. T.

A. Portland is supposed to have the finest sunken gardens in the United States.

Q. What does the Department of Agriculture do with the bulbs after the amaryllis show? Can they be bought? M. E. L.

A. It has taken twelve years to make this collection. It is for exhibition and experimentation purposes and the bulbs are not for sale.

Q. Why does a plant which has wilted in the daytime usually revive at night even though no rain falls? B. N. G.

A. Plants which have wilted during the day recover at night because the increased atmospheric humidity during the night greatly reduces the loss of water from the leaves, while the continued absorption of water by the roots enables the leaves to regain the lost water and again become turgid. However, if the water content of the soil is below the minimum at which the plant can absorb water from that particular soil, no recovery takes place even in a saturated atmosphere.

Q. Are castor beans poisonous? C. E. S.

A. The castor oil plant is not known to be poisonous, and although the leaves are not relished by farm animals they are said to be used as fodder for cattle in India. Castor beans, however, contain a poisonous principle and though harmless when handled may cause serious if not fatal effects when eaten, especially in the case of small children.

Q. What causes the odor noticed in water in which flowers have been kept for a day or two? W. M. C.

A. It is due to putrefaction of the sugar and starch which come from the stalk.

Q. Who designed the Vatican gardens? H. C. G.

A. The great Italian painter Raphael designed them.

Q. What flowers should an old fashioned garden contain? L. L.

A. Among the flowers in our grandmothers' garden were larkspur, iris, hollyhock, phlox, peony, columbine, spiraea, poppy, evening primrose, rocket, lupine, fox glove, anemone, bluebell, pinks, mignonette, bleeding heart, verbena, candy tuft, tiger-lily, and lilies-of-the valley.

Q. What reasons are advanced for making the columbine our national flower? V. W. L.

A. Among the reasons are: first, forms of the columbine grow wild in all States of the Union with a possible exception of Louisiana; second, it can be cultivated easily in any garden; third, it lends itself admirably to conventional design; fourth, the name comes from the same root word as Columbus; fifth, the technical name, acqua legia, comes from the same root word as eagle, our national emblem.

Q. Will chemicals destroy cat-tails in ponds? C. S. S.

A. The application of chemicals in water in which weeds are growing is not considered a practicable way to destroy plants like cat-tails, whose roots are deeply imbedded in the mud. The pond may be drained and plowed, or if the pond is shallow the weeds may be held in check by mowing.

Q. I have heard that orchids will no longer be the rare flower that they are at present. How do you account for the change? B.

A. British growers in Surrey have discovered how to produce orchids on the mass production principle and how to germinate more than 20 seeds where nature could germinate but one.

Q. What is the state flower of Massachusetts? P. N. H.

A. The flower chosen by the legislature of Massachusetts is the mayflower.

Q. Why is it that some people insist that poinsettia does not have a red flower? I. K.

A. It is a confusion of terms. The scarlet leaves of a poinsettia plant are not part of the flower but surround the flower proper.

Q. What can be added to water in which English ivy is growing to keep it from becoming ill-smelling? W. C. G.

A. The addition of a small amount of charcoal will tend to keep the water fresh. You should add a little charcoal from time to time.

Q. Will Virginia creeper cling to stucco? R. E. V.

A. It will cling to a stucco building when the plant is old enough to obtain a hold.

Q. How old must English ivy be to begin to climb? R. E. V.

A. In about a year it is ready to climb.

Q. What is the meaning of the name magnolia? J. H.

A. This plant is so-named in honor of Pierre Magnole, a French botanist of the early 17th century. The meaning of the word magnolia is high-souled.

Q. Why are carnations called pinks? N. M. I.

A. This name is derived from the verb pink, meaning to puncture or pierce, and the flowers were so-called on account of the jagged edges of the petals.

Q. What is honeydew and what causes it? L. R.

A. Honeydew is the saccharine exudate found on the leaves of many plants in hot weather. It is sometimes caused by the punctures of aphids or scale insects, more rarely by fungi, and occasionally by excessive turgescence.

Q. Would it be possible for a vine to climb a smooth wall? T. B.

A. Some vines have tiny suckers on their creepers and can cling to and climb an almost perfectly smooth wall.

Q. What were the popular cut flowers in Civil War times? W. U.

A. The flowers which appeared on the market in those days were, for the most part, the daphne, camellia, abutilon, calla, sweet alyssum, and heliotrope. A few tea roses were sold.

Q. What plant was known as the white man's foot? F. H.

A. A large variety of dock which was not known to the Indians before the advent of the white man, and which followed his progress westward, was given this name.

Q. On what tree does mistletoe grow? M. W.

A. Apple, thorn, maple, poplar, locust, linden and occasionally oak, will furnish a home for the mistletoe parasite.

Q. What shrubs grow well in shaded locations? D. S. W.

A. The snowberry, coral berry, sweet-scented shrub, dogwood, and viburnum are well suited to shady situations.

Q. In what way is the water that plants use held in the soil? J. E.

A. Water is held in the soil by capillary attraction as a film on the soil particles.

Q. What kind of a flower is may? M. N. M.

A. The hawthorne, more particularly the white hawthorne used as a hedge in England, and its blossom is familiarly called may.

Q. When should an arbor vitae hedge be trimmed? D. P. B.

A. The proper time is soon after the hedge begins growth in the spring.

Q. What flowers are appropriate for a bride's bouquet in a fall wedding? D. R.

A. If a change from the conventional bride's roses or lilies-of-the-valley is desired, white swansonia is suitable. Florists are also using white chrysanthemums or dahlias for bouquets for fall weddings.

Q. How many roses are sold in the United States? L. J. P.

A. The number of rose blooms annually grown for sale has been estimated at 100,000,000 valued at about $6,000,000. This industry did not exist in 1850 and its real development dates from 1870.

Q. Do most of the flowers have an agreeable smell? A. F. P.

A. A recent investigation of cut flowers showed that out of 4,300 species of flowers cultivated in Europe, only 420 possess an agreeable perfume. It was also discovered that flowers with white or cream-colored petals are more frequently odiferous than others.

Q. How did the forget-me-not receive its name? M. W.

A. Henry IV of England took this flower as his emblem, and Souviens de moi (Remember me) as his motto. The flower was soon known as the forget-me-not.

Q. Does any plant that grows have a black blossom? W. S.

A. The Department of Agriculture says that there is no flower that has absolutely black blossoms. Certain varieties of pansies are almost black and Scabiosa is very dark.

Q. Cut flowers never seem to live long in our vases. Can you explain why? F. C.

A. Any one of the following may be the cause: hot or cold draughts of air: a stuffy room; smoke or fumes such as those from coal or illuminating gas; insufficient watering; too many flowers in one vase, stems not cut daily; or leaving in warm room over night.

Q. How should I handle chrysanthemums to keep them 48 hours after cutting? J. O.

A. Chrysanthemums should be picked before they have reached their full bloom and should be kept in a cool, damp place, in clear, fresh water. If you have facilities for keeping in a refrigerator, see that the temperature is maintained at about 36 degrees F.

L

POETRY

Q. What was Woodrow Wilson's favorite limerick? F. A. C.

A. This limerick was written by Anthony Euwer and reads as follows: "For beauty I am not a star, There are others more handsome by far, My face I don't mind it, For I am behind it, It's the people in front that I jar."

Q. Was Walt Whitman ever a Government employe? M. F.

A. Whitman was a clerk in the Treasury Department at Washington, 1865-1873, after having been dismissed from the Interior Department on account of his "Leaves of Grass." A paralytic stroke terminated his work in 1873.

Q. What was the name of the famous column edited by Eugene Field? W. O'B.

A. In 1883 he became associated with the Chicago Daily News, with which he was for 12 years identified through his column, Sharps and Flats.

Q. What is the difference between blank verse and free verse? C. H. H.

A. In English blank verse is an arrangement of poetic lines in iambic pentameter without rhyme. Free verse is poetry which is expressed in rhythmical lines with no regard for metrical construction or for rhyme.

Q. How much did Ella Wheeler Wilcox receive for the poem which includes the lines "Laugh and the world laughs with you"? A. T. L.

A. It is said that the New York Sun paid her $5.00. The poem was printed February 25, 1883

Q. Do poets ever compose their poetry in an inverted order of stanzas? S. E. D.

A. Wordsworth and Edgar Allen Poe are examples of poets who occasionally wrote the last stanza of a poem, first. We are Seven and The Raven were so composed.

Q. Who wrote The Old Oaken Bucket, where was it written, and when? T. S. D.

A. The Old Oaken Bucket was written by Samuel Woodworth in the summer of 1817, while he and his family were living in Duane Street, New York City.

Q. Please tell something about Sidney Lanier. J. M.

A. Sidney Lanier was one of the foremost American poets. As a young man, he entered the Civil War and served until taken a prisoner. The experiences of war affected his health and caused tuberculosis. Much of his mature life was spent in Baltimore where he was connected with the Peabody Institute and lectured at Johns Hopkins University. Probably his greatest poem is The Hymn to the Marshes.

Q. Why isn't Crossing the Bar included in many collections of Tennyson's poems? L. A.

A. Tennyson did not write Crossing the Bar until he was over eighty years old so it is not in-

cluded in works published before that time.

Q. Who was the first Poet Laureate of England? G. C. W.

A. Geoffery Chaucer who lived from 1328 to 1400 was the first to assume the title. As early as the reign of Henry III there had been a Versificator Regis or King's Poet.

Q. In Kipling's poem, The Native Born, I find the phrase "Your foot on the table." What is its significance? N. S. N.

A. Ralph Durand in his Handbook to the Poetry of Rudyard Kipling explains this line as follows: "It is an old excellent Scottish custom to drink toasts to those whom it is especially desired to honor, with one foot on the chair and the other on the table."

Q. Who first recited In Flanders Field in this country? L. M.

A. During the war, E. H. Southern read this poem to a Brooklyn audience, and announced that it was the first rendition in America.

Q. What literary work was characterized as a magnificent failure? A. V. W.

A. Browning's poem, The Ring and the Book, was termed by William Sharp "the most magnificent failure in literature".

Q. What is the name of the poem which begins "The sun stepped down from his golden throne"? D. K.

A. This is the opening line of The Star and the Water Lily by Longfellow.

Q. Please tell where the expression "The Wreck of the Hesperus" came from? M. S.

A. The expression "The Wreck of the Hesperus" is derived from the title of a poem by Henry W. Longfellow.

Q. Who wrote The Night Before Christmas? A. G. R.

A. The correct name of the poem The Night Before Christmas is A Visit From St. Nicholas. This was written by Clement C. Moore, an American poet and educator, at New York City, in 1882. He wrote it for his children, but afterwards it was published in a New York paper and later in a book of his collected poems.

Q. What was the origin of the verse, "Drink to me only with thine eyes", etc.? S. W. C.

A. The stanza to which you refer is from Ben Johnson's "To Celia". However, in one of the letters of Philostratus the following is found: "Drink to me with your eyes alone, and if you will, take the cup to your lips and fill it with kisses, and give it so to me."

Q. Is Joaquin Miller the poet's real name? S. D.

A. It is not the real name of the poet. His name was Cincinnatus Heine Miller.

Q. For whom did Longfellow write The Hanging of the Crane? G. T. S.

A. The poem was written in 1867 for a fellow-poet, Thomas B. Aldrich.

Q. Did Mark Twain write the poem containing the lines "Conductor, when you collect a fare, Punch in the presence of the passenjare"? E. W.

A. It has often been attributed to Mark Twain, but is the work of Noah Brooks, who wrote it when he was editor of the Newark Daily Advertiser.

Q. Is the poem Alice Fell founded on fact? D. W. G.

A. The poem written by Wordsworth was based on an incident which happened to a Mr. Grahame of Glasgow. The poem was ridiculed, as Wordsworth says "by the small critics."

Q. In what form did The Blessed Damozel first appear? A. D. G.

A. Rossetti's poem was first published in his brother's magazine called The Germ.

Q. What is the record in royalties received for a poem? L. E. R.

A. An Old Sweetheart of Mine earned royalties for James Whitcomb Riley amounting to $500 for each word. This is said to be the most profitable bit of writing ever done.

Q. What was the rhyme repeated so often in connection with the eight-hour day movement? F. T. U.

A. Possibly you refer to the English jingle, "Eight hours for work, eight hours for play, eight hours for sleep, eight bob a day."

Q. Is a quatrain a verse of four lines or a poem of four verses? B. F.

A. A quatrain is a poetical stanza of four lines, usually rhyming alternately, but the term is sometimes loosely applied to a poem of four short stanzas.

Q. Is there more than one Rubaiyat of Omar Khayyam? F. L. K.

A. The word Rubaiyat is Arabic and is the plural of Ruba'i, meaning a quatrain. The word applies to the collection of Persian quatrains. Edward Fitzgerald translated one hundred of Omar Khayyam's quatrains. It is not known how many of these were actually written by Omar, but about one thousand are found in different works and manuscripts ascribed to him.

Q. Who was the original of Jim Bludso? W. W. T.

A. Oliver Fairchild, engineer of the Fashion was the original of the hero of John Hay's poem.

Q. Where was Joaquin Miller born? V. E. D.

A. The poet's birth occurred in a covered wagon in 1841 "at or about the time it crossed the line dividing Indiana from Ohio."

Q. Was The Man With a Hoe first published in a book or magazine? N. T.

A. Markham's poem was first published in 1899 in a newspaper.

Q. What is the story about the writing of the Recessional by Kipling? B. W. D.

A. Kipling wrote the poem called Recessional but regarding it as inadequate threw away the manuscript. Mrs. Kipling found it in the waste basket from which she rescued it. The poem was sent immediately to the London Times and appeared in that paper on the date of the celebration of Queen Victoria's Great Jubilee.

Q. What was the salary of Robert Louis Stevenson when he was a reporter for the Monterey Californian? D. C. L.

A. He received two dollars a week.

Q. Who wrote "Stay, stay at home my heart and rest, Home-keeping hearts are happiest"? R. R.

A. These are the first two lines of Longfellow's Song. The following lines complete the stanza: "For those that wander they know not where, Are full of trouble and full of care; To stay at home is best."

Q. How long did it take Masefield to write The Widow in the Bye Street? A. M. B.

A. In speaking of this poem and of The Everlasting Mercy, Masefield himself says: "Each of these two tales was written in three weeks and three days."

Q. Who is The Knightly Rider of the Knee in Rhymes of Childhood by Riley? T. C.

A. This happy title belonged to the poet's nephew, Edmund H. Eitel.

Q. Which of Byron's poems was it that caused him to wake to fame? G. McL.

A. Childe Harold is the poem which caused Lord Byron to say "I awoke one morning and found myself famous."

Q. Did Robert Browning contribute to magazines? D. R. B.

A. With only a few exceptions, the poet did not contribute to periodicals. At the urgent request of Monckton Miles, Browning sent The Flower's Name, Tokay and Sibrandus Schafnaburgensis "to help in making up some magazine numbers for poor Hood" who was ill at the time.

Q. Please name two great elegiac English poems? A. C. R.

A. Critics usually give first place to Milton's Lycidas and second to Shelley's Adonais among the elegiac English poems. A. C. R.

Q. Is it known how long a period Keats devoted to his Ode to a Nightingale? P. S. F.

A. The poem, written while Shelley was sitting in Keats' garden at Wentworth Place, Hampstead, was composed in less than three hours.

Q. What are the names of the Three Fates? R. U. V.

A. In a poem of Hesiod, they appear as the three daughters of Zeus and Themi: Clotho, the spinner; Lachesis, the assigner of the lot; Atropos, the inflexible, who cuts the thread (of life).

Q. In his poem, The Truce of the Bear, what does Kipling mean by Adam-Zad? T. H. F.

A. The Shikarris of Kashmir call the bear Adam-Zad meaning the son of Adam. The name is used because they see a resemblance between the anatomy of a man and that of a bear.

Q. Who wrote "Westward the course of empire sets its way"? C. E. F.

A. The first verse of a poem by Bishop Berkeley, an English philosopher, is: — "Westward the course of empire takes its way, The first four acts already past A fifth shall close the drama with the day, Times noblest offspring is the last." This refers to America and was written about the year 1820.

Q. Can you give me any figures which indicate the popularity of Evangeline? C. G.

A. Thirty-seven thousand copies of the poem were sold in the first ten years following its publication. The poem has been translated into ten languages.

Q. How old was Paul Lawrence Dunbar when he died? D. G.

A. The negro poet died in 1906 at the age of 34.

Q. What was the name of the poem written in the Garden of Gethsemane by a member of the French Academy after losing his only daughter in Palestine? P. I. M.

A. The poem is Gethsemani, ou la Mort de Julia, by Alphonse de Lamartine.

Q. How long did Robert Frost write before he became famous? D. D. B.

A. The American poet, Robert Frost, wrote for twenty years before his work became known. A Boy's Will, first published in England in 1913 was the first work really to attract attention.

Q. Who was the Maid of Athens of Byron's poem? G. W. T.

A. It is said that this song was addressed to the daughter of Theodore Macri, a consul at Athens.

Q. In what year was Sohrab and Rustum written and in what period does the action take place? T. V. P.

A. The great poem Sohrab and Rustum by Matthew Arnold is a Persian epic and was written in 1853. The time of the poem is in legendary days and no actual date can be given.

LI

POLITICS

Q. What was the first election held in the United States? G.

A. Probably the earliest elections held in America were those of delegates to the Virginia Assembly in 1619, but the earliest date specified is that of the election of John Winthrop as Governor of Massachussets, May 18, 1631.

Q. Why does Maine have her election for Congressmen in September instead of November? N. L. M.

A. The election day of the State of Maine was fixed by the legislature at a time when transportation facilities were much poorer than at present. By November in the State of Maine many roads were closed to travel and it was exceedingly difficult for people to reach the polling centers.

Q. When was the recall first practised in American politics? A. L. T.

A. Contrary to general opinion the recall is not an innovation of modern politics, but has been known since revolutionary times. Pennsylvania's delegates to the Continental Congress who refused to sign the Declaration of Independence were recalled and others sent in their places. Los Angeles was the first city to adopt the recall, the amendment to its charter in 1903 being modeled after the cantonal law of Schaffhausen, Switzerland.

Q. Who defined honest politicians as those who stay bought? S. L.

A. Simon Cameron, United States Senator from Pennsylvania, member of Lincoln's cabinet, and the first powerful State boss in American politics, is said to have been the first to define an honest politician as "one who will stay bought when he is bought."

Q. Is there a limit to the amount of money that a political National Committee may spend during a presidential campaign? C. P. D.

A. There is no set limit of expenditure. It is merely necessary to raise the money to spend. However, a public accounting is made, nowadays.

Q. What is the difference between a lobby and a bloc? O. C.

A. In a political sense, a bloc is a group of legislators organized to influence legislation, while a lobby is, specifically, persons not members of a legislative body who try to influence legislation.

Q. How did the name lame duck originate? V. C. K.

A. The expression is commonly applied to a legislator who has failed to be returned to office by his constituents. The name, however, did not originate in Congress, but in the stock exchange. Its meaning in stock exchange parlance is a disabled person or thing, or a person unable to fill his engagements or contracts.

Q. What is the two-thirds rule that the Democrats are talking about now? T. W. D.

A. A long-established rule of

the Democratic Party provides that in National Conventions a candidate to be nominated for President must receive the votes, not merely of a majority, but of two-thirds of the delegates in the convention. A majority vote nominates in Republican National Conventions, and some prominent Democrats are now advocating that their party abrogate the two-thirds rule.

Q. Why have parties been called legitimist? A. G.

A. The French word legitimiste was applied in the sense of a supporter of hereditary right to govern as against parliamentary rule.

Q. How long was the term of a Roman Senator? T. E.

A. A Roman Senator was appointed for life unless he should be expelled from office for some dishonorable cause.

Q. What is cumulative voting? H. S. P.

A. Cumulative voting is a system first introduced into Great Britain in 1870 by which the voter is entitled to as many votes as there are persons to be elected and may give them all to one candidate or may divide them among the candidates.

Q. Is there any State in which a citizen may vote at an earlier age than 21? H. C.

A. All the States adopt the English rule of fixing the age limit for suffrage at 21 years. This is a lower age than is fixed in some European countries, but in no country except the new German Commonwealth has the age been fixed at a lower figure. In Germany suffrage is extended to all citizens, irrespective of sex, at the age of 20.

Q. What was the name of the United States Senator who, by changing his vote, saved President Johnson from being convicted of treason? J. Y .

A. Senator Edmund Ross, of Kansas, in changing his vote for the acquittal of President Johnson defeated the effort to impeach Johnson. The vote of the Senate was thirty-five for conviction and nineteen for acquittal, lacking one of the necessary two-thirds to convict the President.

Q. In case there should be such a political split in a State so that two sets of presidential electors would be reported by rival state administrations or officials, what would happen? A. G.

A. In 1887 Congress enacted a law providing that each State under its own laws should designate a tribunal to determine the legality of its electoral votes, but should no such tribunal have been appointed in case of double returns the vote of the State is lost unless the two houses of Congress agree as to which electoral votes from the State are the legal votes.

Q. What year did Horace Greeley run for the Presidency? L. M.

A. Horace Greeley ran for President on the Liberal Republican and Democratic party tickets, in 1872. His running mate was Benjamin Gratz Brown and he was opposed by U. S. Grant and Senator Henry Wilson of Massachusetts on the Republican ticket.

Q. Has a United States Senator ever been killed in a duel? H. S. B.

A. A duel was fought in California in 1859 between United States Senator David A. Broderick and Judge D. S. Terry in which Senator Broderick was killed.

Q. Who were the Quids in American politics? M. P. L.

A. The Quids was a faction of the Republican party led by John Randolph from 1805 to 1811. The name was derived from tertium quid, signifying their separation from both parties.

Q. In reading international politics I see references to white book, yellow book, etc. What is meant by these? T. B. R.

A. The books referred to are the published reports on special topics issued by the government of a country. They are named for the color of their binding.

Q. Who gave the present Republican party its name? C. A. S.

A. The first known suggestion of the name Republican was in a letter written by Horace Greeley; the earliest convention of importance to adopt it was held at Jackson, Michigan, July 6, 1854.

Q. Was Burchard's "Rum, Romanism and Rebellion" statement that defeated Blaine made in a campaign speech? R. T.

A. On Oct. 29, 1884, just before the election, Samuel D. Burchard was one of a deputation visiting Mr. Blaine and assuming to speak for the deputation he said, "We are Republicans and don't propose to leave our party and identify ourselves with the party whose antecedents have been Rum, Romanism, and Rebellion."

Q. What was the origin of the hustings as a political term? C. P. B.

A. Husting was the name of an ancient court held in the city of London. In its present sense, the word denotes the place where Members of Parliament were nominated before the Ballot Act of 1872 rejected the form of nominating openly. From this it has come to be applied to any electioneering platform.

Q. What was the nature of the Morey Letter which created such a furore in the Garfield campaign? J. H. G.

A. During the Garfield-Hancock presidential campaign of 1880 a letter which favored Chinese immigration purporting to have been written by General Garfield to H. L. Morey of Lynn, Mass., was made public and used as a campaign document by the Democrats. General Garfield denounced the letter as a forgery.

Q. What was the Buckshot War? R. I. M.

A. An election controversy in 1838 in Pennsylvania, between the Whigs and Democrats, was carried to such lengths that one side threatened the other with ball and buckshot, hence it became known as the Buckshot War. Federal intervention was demanded, but was refused.

Q. When was the first occasion upon which a party nominated to succeed himself, a Vice President who had become President? B. O. F.

A. Mr. Elihu Root, on July 12, 1904, writing to Mr. Roosevelt concerning his nomination said: "This is the first time that any party has nominated to succeed himself a Vice President who had become President."

Q. What was the origin of the name Whig? B. S.

A. This has been the subject of much controversy. One contention is that the initials of the motto of the Scotch Covenanters, "We hope in God," caused the name to be applied to that body of people. Another claim is that the word was taken from Whey pronounced Wheg, an allusion to the "sour milk faces of the lowlanders of Scotland." The third contention is that the Scotch word whiggam used by peasants to describe horse and cattle thieves was by them transferred to the adherents of the Presbyterian cause in Scotland.

Q. Is it true that the election of a President once depended upon the political complexion of the Supreme Court? B. O. P.

A. The Commission created to settle the famous Tilden-Hayes contest was composed of five

Senators, five Representatives, and five Justices of the Supreme Court. When this plan was agreed to, chance favored the Democrats, owing to the composition of the Supreme Court; but while the commission was being organized, Justice Davis, who was expected to be a member and to favor Mr. Tilden, was elected a Senator and resigned his seat on the Supreme Court bench. This led to the substitution of Justice Bradley, a strong Republican, whose vote decided the question, for the commission to every question divided eight to seven. The electoral vote as decided by the commission was 185 for Hayes to 184 for Tilden.

Q. What is the French method of preventing fradulent voting? J. D. S.

A. The French electoral card system is most effective. The voter is required to present a card issued by the mayor of the town where he lives stating his name, profession and residence. Each card is numbered and when it is submitted to the judge of elections it is checked off on the register of voters. Then the ballot is accepted and the official tears off a corner of the card, rendering it useless for further voting that day. These bits of cards are strung on a wire and are counted at the close of the polls to see that they tally with the number of ballots in the box.

Q. Please tell briefly how a President is elected. W. A.

A. Briefly the process is: Candidates are nominated by the national party conventions. Electoral delegates are nominated to a number equal to the number of Representatives of that State in Congress, at the state party conventions or primaries. These electors are voted for by popular vote in November and the successful candidates constitute the electoral college. The members of the college cast their votes in their respective States in January, succeeding the November election, and the results are forwarded to the Vice President of the United States, who acting as President of the Senate, opens and counts the votes in the presence of both Houses of Congress assembled, declaring the results.

Q. What is a plebiscite? E. C. W.

A. A plebiscite is a form of voting introduced in France under the Napoleonic regime by which the whole body of voters ratified or refused to ratify a legislative enactment.

Q. Please give some old campaign slogans. H. G. C.

A. Tippecanoe and Tyler Too—Whigs, 1840; Fifty-four Forty or Fight—Democrats, 1844; General Taylor never surrenders— Whigs, 1848; Give 'em Jesse—Republicans, 1856; Free soil, free speech, Fremont—Republicans, 1856; Peace at any price—Fillmore, 1856; The Constitution, the Union, the enforcement of the laws — Constitutional Whig Party, 1860; Repudiate the repudiators—1868; Three hundred and twenty-nine—Democrats, 1884; Burn this letter—Opponents of James G. Blaine, 1884; A full dinner pail—McKinley, 1896; Sixteen to one—Bryan, 1896; Stand pat—Republicans, 1902; He kept us out of war—Wilson, 1916; Back to normalcy—Harding, 1920.

Q. In what State were candidates for office first nominated by primary? T. F. C.

A. The earliest system of direct selection of candidates was the Crawford County system used in Pennsylvania in the sixties. Minnesota adopted the direct primary for Hennepin County in 1899, but Wisconsin by her law of 1903 was the first State to adopt this method for all nominations.

Q. How long has the Australian Ballot system been used in this country? D. M.

A. The Australian Ballot was introduced into the United States

in 1888. The first law providing for it was enacted in Kentucky, but it applied only to the city of Louisville. In the same year Massachusetts passed a law providing for the use of the Australian Ballot in state elections, but it did not become effective until the following year.

Q. Have any so-called dark horses actually been nominated for the Presidency and afterward elected? M. G. G.

A. James K. Polk and Franklin Pierce were typical darkhorses of the Democratic party and Rutherford B. Hayes, and James A. Garfield of the Republican party, who were elected Presidents of the United States. James A. Garfield's whole hearted advocacy of his favorite candidate, John Sherman of Ohio, brought him into such favorable prominence during the Republican Convention, that, when it was demonstrated that none of the avowed candidates could be nominated, he was easily chosen as a compromise candidate.

Q. At what age can women vote in England? D. E. W.

A. In England the voting age for women is thirty years.

Q. What is the unit rule in politics? M. S. P.

A. It is a rule whereby the votes of all the delegates of a unit in a convention are cast according to the decision of a majority of the delegates of that unit. For example in a state convention in which the units are counties, if the convention adopted the unit rule the vote of each county would be controlled by a majority of the delegates from each county, and in a national convention, with the State as a unit, the majority of the delegates from a State would dictate the vote of the entire delegation. Under the unit rule, delegates do not vote as individuals except in determining how the total vote of the county or State shall be cast.

Q. What is meant by the Old Guard? W. T.

A. In United States politics the term refers to the conservative or stand pat element in the Republican Party.

Q. Who or what were the Barnburners? O. S.

A. Barnburners was a nickname of the progressive faction of New York State Democrats from 1844 to 1852, which in turn called the opposing faction Hunkers. About 1852 the nicknames were changed to Softs and Hards. The origin of the name Barnburners is usually attributed to the familiar campaign story of the man who burned his barn in order to free it from rats.

Q. In the presidential campaign of 1884, when the Democrats raised hickory poles, what kind of poles did Republicans raise? R. C.

A. In that stirring campaign the politics of a man was indicated by the pole raised in front of his home. Democrats raised hickory poles and Republicans, ash. The enthusiasm of the man was in a way measured by the height of the pole. Some huge forest trees were sacrificed to party loyalty, and pole raisings were well-attended events. The poles were topped by American flags.

Q. Was there ever an anti-Masonic political organization of any strength in this country? B. G.

A. In 1826 William Morgan, of Batavia, New York, a Free-mason who was preparing a book revealing the secrets of the order, disappeared and it was charged that he had been abducted and drowned in Lake Ontario. Long trials were held but no one was ever convicted. The affair led to the formation of an Anti-Mason Party, which controlled over 30,000 votes in New York and secured the electoral vote of Vermont in 1832.

Q. Where was the Democratic

convention held that nominated Tilden and Hendricks? T. M.

A. The Democratic Nationoal Convention of 1876, which named Tilden for President and Hendricks for Vice President, was held in St. Louis.

Q. What was the origin of the spoils system in politics? L. F.

A. The spoils system is as old as politics and the distribution of patronage to reward friends, but the name grew out of the saying attributed to William L. Marcy, a prominent New York Democrat, in 1833, "to the victors belong the spoils."

Q. What is meant by the monetary expression, "sixteen to one"? L. W. K.

A. A campaign issue when Mr. Bryan first ran for President was that of the free and unlimited coinage of silver at the ratio of sixteen to one. The government now buys all the gold that is presented to it at a stated price. This proposal was to coin all the silver presented at a price that was one-sixteenth that of gold.

Q. Why were the Progressives called the Bull Moose party in 1912? T. K.

A. The name came from Roosevelt's remark early in the campaign, "I feel as fit as a bull moose."

Q. Why was the tiger adopted as a symbol of Tammany Hall? C. W. L.

A. The Democratic County Committee says that the impression is that the organization never made such an adoption, but that the emblem has been used in connection with Tammany ever since the famous cartoonist, Thomas Nast, in the Tweed days, pictured the organization as a tiger. This cartoon is among the collection exhibited on the walls of the National Press Club in Washington, D. C.

Q. How old is Tammany Hall? G. B. N.

A. The Tammany Society was founded May 12, 1789, as "a fraternity of patriots," and was divided into 13 tribes, corresponding to the 13 original States. It wielded a powerful influence in national affairs, though it was not until Boss Tweed gained control of the organization in 1870 that it became emblematic of boss rule and policies.

Q. When was the term Continental Congress first used? D. L. S.

A. It was first used by Ethan Allen at the capture of Ticonderoga, May 10, 1775. When the British officer asked Allen by what authority he demanded the surrender of the fort, he replied: "In the name of the Great Johovah, and the Continental Congress."

Q. What is meant by the term cloture? M. P. C.

A. Cloture and closure have the same meaning and are names given to the method adopted for ending debate and securing a vote upon a measure before a legislative body. It is used in the French Assembly, in the British House of Commons, where it is done by a motion that "the question be now put," and in the United States House of Representatives, where the same object is attained by moving "the previous question."

Q. What was the origin of the phrase describing presidential tours as swings around the circle? P. A. H.

A. President Andrew Johnson, on the presidential reconstruction tour in August, 1866, used the expression, "We are swinging around the circle."

Q. What is the origin of the word caucus?

A. The word caucus is a corruption of the Calkers Club, founded by Samuel Adams for the purpose of recommending the best men for office.

LII

POPULATION AND CENSUS

Q. What country has the largest population and what one the smallest? J. G.

A. China, including her dependencies, has the largest population, 375,000,000. Andorra has the smallest population, 5,231.

Q. What county in the United States has the smallest population? C. P. G.

A. The Census Bureau says that Crane County, Texas, with a population of 37, has the smallest population of any county in the United States.

Q. Where is the population per square mile the densest in the United States? W. R. K.

A. In 1920 the population per square mile was greatest in Washington, D. C.—7,292.9 persons to the square mile.

Q. What is the population of the District of Columbia? W. W. E.

A. The terms, District of Columbia and Washington, D. C., are practically synonymous. In 1920 the population was 437,571. The estimated population as of July 1, 1926, is 528,000. It is interesting to note that if the suburban towns and settlements were included, as is the case with many cities, the population would be over 1,000,000.

Q. How does the number of Norwegians in the United States compare with the population of Norway? G. G. T.

A. There are today almost as many Norwegians in the United States as there are in the mother country. The number in the United States is about 2,500,000, while the population of Norway is 2,649,775.

Q. What States have more women than men? H. S.

A. The Bureau of the Census says that the States having a larger number of women than men are: Massachusetts, Rhode Island, New York, North Carolina, South Carolina, Georgia, Alabama and the District of Columbia. All other States have more men than women.

Q. Is it true that people who live on farms have more children than those who live in towns and cities? N. F. P.

A. The farm population of the Nation, although less than 30 per cent of the total, includes more than 35 per cent of the child population.

Q. How many people live on Tristan Da Cunha? L. M. D.

A. It is probably the most isolated of inhabited spots on the globe; the first permanent settlement was in 1810 and at present there are about 100 inhabitants on the island.

Q. In what city do the most people own their own homes? S. E.

A. In 1920, for cities of 100,000 or more population, Des Moines, Iowa, had the greatest number of people who owned their homes. Out of a population of 126,468, 51.1 per cent were members of families owning their own homes.

Q. How many people living near New York City commute daily? H. T.

A. The population of Metropolitan New York is 9,444,000. This means that there are about 3,500,000 people outside Greater New York within commuting distance. Over 350,000 of them go into New York to work every week day, while as many more go in daily to shop (1926 estimate).

Q. How many people live within a radius of 500 miles of Pittsburgh? W. H. W.

A. Within 30 miles of Pittsburgh there is a population of approximately 1,800,000; within 100 miles radius, 5,400,000 persons, and within a 500-mile radius, 64,000,000 persons.

Q. At the time that the United States was formed, what proportion of the population was English? J. M. T.

A. In 1790, the English people in the United States formed 83.5 per cent of the population; Scotch, 6.7 per cent; Irish, 1.6 per cent; Dutch, 2 per cent; French, 0.5 per cent; and German, 5.6 per cent; all other, 0.1 per cent. The entire population at that time numbered 2,810,248.

Q. Is there any State in the Union which has a greater negro than white population? J. D.

A. In 1920 South Carolina had 818,538 whites and 864,719 negroes; Mississippi has 853,962 whites and 935,184 negroes.

Q. What is the most densely populated country of South America? J. L. P.

A. Uruguay is the smallest country and has the densest population. It has 72,153 square miles, and a population approximating 1,500,000.

Q. Can you ascertain for me the data given the census enumerators of this city? C. D. J.

A. The Bureau of Census states that all facts given to census enumerators are considered confidential. There is a fine not exceeding $100.00 for giving false information to these enumerators.

Q. Which city is larger, New York or London? O. H. L.

A. Statisticians say it is almost impossible to compare the population and area of New York City and London. We submit the following figures, however, from the Bureau of Census report: 1920—Greater New York, 5,620,048; Metropolitan district of New York, 7,910,415; 1921—Registration London, 4,483,249; Greater London, 7,476,168. According to the areas of these two cities Greater New York corresponds with registration London, while the metropolitan district of New York corresponds with the area of Greater London.

Q. How does the density of population in the United States compare with that of European countries? A. W. A.

A. In 1920 there were 35.5 persons to the square mile in the United States. This percentage is far lower than that of most European countries. In England there are 701.3 persons per square mile; in Belgium, 648.0; in the Netherlands, 563.3; in France, 184.4; in Germany, 328.0; and in Italy, 329.1.

Q. What State has the greatest and which the smallest population? A. M.

A. New York has the largest number of people of any State in the Union. The population in 1920 was 10,382,227. Nevada had the smallest number of persons. In 1920 there were 17,407.

Q. What State had the largest population in the first census? G. A. R.

A. Virginia had the largest population in 1790, the total being 747,610.

Q. What foreign nationality has the largest population in Minnesota and in Wisconsin? L. W. E.

A. Swedes lead in the number of foreign born in Minnesota. There are 112,117 Swedes in Minnesota. Germans lead in Wisconsin. There are 151,250 Germans in Wisconsin.

Q. How many foreigners are there in the Philippines? L. H. H.

A. The population of the Philippine Islands in the 1918 census was 10,350,640, of which all but about 72,000 were Filipinos.

Q. What is the population of South America? L. S.

A. The population of South America is estimated at 64,000,000.

Q. When did New York City reach a million in population? T. F. S.

A. The census of New York City in 1850 was something over 600,000, while in 1860, the population had increased to more than a million.

Q. How many States increased a million in population between the last two censuses? C. N. O.

A. There were four that showed such an increase—California, New York, Pennsylvania and Ohio.

Q. What is the present density of the population of Palestine? W. R. I.

A. According to the latest official estimate, the density of population is 80 to the square mile.

Q. Are there more Mongolians than Negroes? W. L. J.

A. Mongolians greatly outnumber Negroes in the population of the world. The white races are most numerous, about 900,000,000; the yellow, 645,000,000; black, 139,000,000; brown, 39,500,000; and red, 28,000,000.

Q. Has the number of foreigners in this country increased since the 1910 census? W. T. T.

A. The foreign born white population in 1920 was 1,206,951, while in 1910, it was 1,202,560. In proportion to the whole population of the United States, however, the percentage of such foreigners has decreased.

Q. Are there more people in Chicago than in the State of Wisconsin? W. R.

A. The population of the State of Wisconsin for 1920 was 2,632,067. The population of Chicago for 1920 was 2,701,705.

Q. Are there more men or women in Canada? D. B.

A. There are 6.5 per cent more men than women in Canada, according to latest statistics. Some provinces are greatly in need of women workers and an effort is being made to attract the surplus females of other countries to meet the needs of the Dominion of Canada.

Q. What is the present population of France? D. E. P.

A. The latest estimate is 39,209,766, exclusive of military and naval forces, and seamen abroad. The French colonial possessions have a combined population of 53,572,855.

Q. Are there more single women or single men in the United States? E. D. G.

A. In 1920, considering the people of the United States 15 years of age and over, there were more single males than females. The percentage of single men was 35.1 and of single women was 27.3.

Q. What is the population of the British Empire? M. M.

A. The total population of the British Empire is about 445,000,000.

Q. When did we get the Philippines, and what is the total population of the islands? A. I.

A. The Philippines were ceded to the United States by the Treaty

of Paris, 1896, following the Spanish-American War. There are 7,083 islands. The largest, Luzon, contains 40,814 square miles, and Mindanao, the next, 36,906 miles. The population is estimated at 10,350,640.

Q. Kindly advise as to which sex is in the majority in the United States. G. M. L. N.

A. There are more males in the United States than females, the male population, according to the 1920 census, being 53,900,376, and the female, 51,810,244.

Q. How large a city is Dublin, Ireland? M. V.

A. The population of Dublin is 399,000.

Q. What was the population of ancient Rome? J. L. O.

A. Rome, at her height, in the first century, had about 2,000,000 inhabitants.

Q. How many people live on Gibraltar? O. O.

A. The area of this British colony is but 1⅞ square miles. The fixed civil population in 1921 was 17,160, with 1,400 aliens in addition. The military population is about 3,500.

Q. What is the area of the Belgian Congo? What portion of the population is white? L. W.

A. This territory has an area of 909,654 square miles. The estimated population is 10,000,000, of which only 10,037 are white.

Q. How many people are there in the United States that can neither read nor write? M. P. H.

A. The last census report shows that the population of the United States, consisting of persons 10 years of age and over, was 82,739,315, and of these 4,931,905 persons were illiterate.

Q. Is there any race in the United States in which there are more women than men? C. C. G.

A. The Negro race is the only one in this country that has had an excess of females over males in almost every census.

Q. How much has the percentage of people living in cities increased since 1910? B. A. B.

A. In the United States, in 1910 the population living in cities of more than 2,500 was 46 per cent. At present it is approximately 50 per cent.

Q. What is the population of the United States as to races? H. H. G.

A. According to the 1920 census there are 94,882,431 white persons, 10,462,013 colored persons, 243,959 Indians, 61,686 Chinese, and 111,025 Japanese, or 172,711 Mongolians, in the United States.

Q. How does the population of the District of Columbia compare with that of the smaller States? S. C. R.

A. The District of Columbia has a larger population than Delaware, Wyoming, Nevada, Idaho, or New Mexico.

Q. To what extent did the Black Death decimate the population of Europe in the fourteenth century? C. P. G.

A. This plague carried off more than one-half the population, Hecker estimating the loss of life at 25,000,000.

Q. How many people in the United States work? W. G.

A. The Census Bureau says that 39.4 per cent of the population is engaged in gainful occupations. Only 82,739,315 of the 105,710,620 inhabitants are over 10 years old, and it is found that over half of those who have reached that age are earning money.

Q. How many Indians are there in Alaska? H. E.

A. People classed as Indian total 26,558 in the 1920 census of Alaska.

This is 48.3 per cent of the entire population. Persons of mixed blood are classified according to the non-white racial strain.

Q. What county in the United States has the largest population? R. T.

A. Cook County, Illinois, is the first with a population of 3,053,017; New York County, N. Y., second with 2,284,103; Philadelphia County, Pa., third with 1,823,779, and Wayne County, Michigan fourth, with 1,177,645.

Q. How many Chinese women are there in this country? S. W. M.

A. The Bureau of Census says that there were 7,748 Chinese women in the United States in 1920.

Q. How many families are there in the United States? E. M. C.

A. According to the 1920 census, there are 24,351,676 families in this country.

Q. What is the average size of a family in the United States? M. E. R.

A. The Bureau of Census report shows the average number of persons to a family is 4.5. That is, if all people were put into families of equal size it would be necessary to compose half the families of four persons and half of five persons.

Q. What part of the population of this country helps to raise the crops? W. R. H.

A. The Department of Agriculture says that the agriculture production of the United States requires the labor of about one-quarter of the gainfully employed population. In China and India about three-fourths of the people support themselves by some sort of farming, and in Russia the proportion is larger.

Q. If all the people in the world were put in the State of Texas, how much room would each person have? W. D. W

A. The area of the State of Texas is 265,896 square miles. Assuming that the population of the earth is approximately 1,800,000,000, the area allotted to each person, if the whole population of the earth were included in Texas, would be 42.3 square feet.

Q. Are the natives of Haiti black? L. B.

A. Negroes compose about 90 per cent of the population.

Q. What was the population of the ancient city of Athens? V. I. C.

A. At the height of Athens' power as a city state the population was estimated to be between 300,000 and 350,000.

Q. What per cent of the country's population lives in New York City? N. E. C.

A. Six million persons, or approximately 5 per cent of the country's population, reside in New York City.

Q. What percentage of the population of the world is civilized? F. B. J.

A. It is estimated that there are 1,800,000,000 human beings in the world. Of this number two-thirds are only semi-civilized or in a barbaric condition.

Q. How many people live in Nome, Alaska? K. P.

A. It has less than 1,000 inhabitants.

Q. Where was the center of foreign-born population in the 1920 census? C. A. H.

A. The center of the foreign-born white population in the United States as determined by the Bureau of the Census on January 1, 1920, was located 41° 31′ 45″ Lat. N., and 84° 49′ 17″ Long. W., or in the eastern part of Allen County, Indiana, about 10 miles east of New Haven and 16 miles east of Fort Wayne.

LIII

POST OFFICE

Q. When and where was the first mail carried between towns in the United States? M. R. H.

A. The first mail on the American continent started from New York for Boston, January 1st, 1673.

Q. What was the first postoffice in the United States? L. L. L.

A. The first postoffice was established in Boston in 1639. In 1657 a postal service was started in Virginia, in 1672 a mail route was started between New York and Boston, and in 1683 William Penn established a postoffice in Philadelphia, with weekly mails to various places near that city.

Q. What country has the smallest stamp in the world? K. S.

A. Bolivia.

Q. How many people must a community have in order to have a mail carrier? L. W. B.

A. One of the requirements for village delivery is that it shall have a population of 1,500. The others are that the receipts of the office must be at least $5,000, receptacles provided for all houses, the streets named, the sidewalks paved, etc.

Q. Who received the first parcel post package in this country? J. O. T.

A. The first parcel post convention was negotiated with Jamaica in 1887, and upon adoption of the treaty, a feathered fan was sent to Mrs. Grover Cleveland by Jamaica officials.

Q. What is the minimum age for employment in the Special Delivery Section of the United States Postoffice Department? G. T.

A. Twenty-one years is the minimum age.

Q. Can the wife of a rural mail carrier be appointed postmaster? C. C. B.

A. According to the Postal Laws and Regulations, a rural mail carrier and postmaster cannot be husband and wife.

Q. Do letter carriers furnish their uniforms, caps, etc.? A. S.

A. Letter carriers and substitutes are required to procure uniforms at their own expense.

Q. What is done with money found in letters that find their way to the Dead Letter Office? P. H. R.

A. Money found in letters sent to the Dead Letter Office is turned over to the Treasury Department as miscellaneous receipts.

Q. What is the parcel post rate on packages going abroad? E. B. L.

A. The rate is 12 cents per pound to all countries.

Q. How much mail must a postoffice receive in order to have an electric cancelling machine? C. S. G.

A. If a postoffice cancels 5,000 pieces of mail a day, it may apply for an electric cancelling machine.

Q. I received a 20-cent stamp in payment of a bill. Having no use for this denomination, I at-

tempted to exchange it at the postoffice for 2-cent stamps. The postmaster refused to do this. What is the rule for this? W. H. K.

A. According to postal regulations, adhesive postage stamps are not redeemable, neither can they be exchanged at the postoffice for other stamps.

Q. Do stamps have watermarks? L. L. I.

A. They are used in many countries to guard against counterfeiting of stamps. Great Britain and her colonies have stamps with very interesting watermarks which appeal to collectors.

Q. How large an amount of money may be sent by money order? J. H.

A. The maximum amount of a money order is $100, but as many $100 money orders can be issued to an individual as desired.

Q. Can United States two-cent stamps, for use on mail, be sold for more or less than two cents? W. K.

A. The existing law requires that postage stamps must be sold at face value by postmasters and postal employees. This law does not apply to persons outside of the Postal Service.

Q. At what time must one go to a postoffice to get a money order? W. H. H.

A. Money orders are issued between the hours of 8 A. M. and 6 P. M. and at such other times as it may be convenient to the postmaster.

Q. Does the Postoffice Department sanction the sale of merchandise by the endless chain system? F. V.

A. The Postoffice Department says that endless chain enterprises have been held by the Postoffice Department for over a period of twenty years to be of a fraudulent nature. In 1925 a fraud order was issued against a company operating such an endless chain business. The prosecuted company secured a permanent injunction to restrain the fraud order, and at the present time the case is in the Court of Appeals in the District of Columbia. As yet no date has been set for any hearing.

Q. How many pieces of mail go through the Postoffice in a year? Y. P.

A. In 1923 the Postoffice Department found that 23,054,831,638 pieces of mail were handled during that year. Accurate statistics have not been compiled, but it has been estimated that 26,094,000,000 pieces of mail were handled during the fiscal year ending June 30, 1925.

Q. What sort of a mark was used on letters before postage stamps were used? E. P. C.

A. Prior to the use of postage stamps, which were first issued in 1847, postmasters used what were known as provisional stamps. These were in the nature of a rubber stamp which served the purpose of postage. It showed the prepayment of postage and was similar to the postmark on letters today, and usually bore the word paid, name of the office, and the amount of postage remitted.

Q. What is the largest postage stamp ever issued? A. G.

A. A $5.00 United States postage stamp has been the largest ever issued to the public in this country. There have been $100 stamps issued purely for official use.

Q. How close to the road must rural mail boxes be put? C. J. S.

A. Rural mail boxes must be placed so that the carrier can serve the box without dismounting from his vehicle.

Q. How can stamps which are stuck together be taken apart without losing the mucilege? W. F. P.

A. Lay a thin sheet over them and iron with a hot iron.

Q. When were the first United States postage stamps issued? R. G.

A. The first official use of postage stamps was sanctioned by Act of Congress of March, 1847. On July 1st, 1847, the first stamps were issued. They were a 5-cent and a 10-cent stamp. The 5-cent stamp bore the likeness of Franklin, while the 10-cent stamp bore the portrait of Washington from Stewart's painting. Provisional stamps were issued prior to 1847 and were used by postmasters at some of the larger offices. They consisted of an impression placed upon letters with impressions such as "paid 5c," the name of the office, etc. These stamps are very rare and are among the most valuable known.

Q. Why are memorial stamps of different sizes? A. L. N.

A. On commemorative stamps it is often found necessary to make the stamp large in order to do justice to the subject thereon.

Q. When were postage stamps first collected? R. T.

A. The fancy for stamp collecting began a short time after the issue of the first British penny and two-penny stamps in 1840. Dr. Gray, of the British Museum, began collecting them soon after their appearance. An advertisement in the Times of 1841 asked for gifts of cancelled stamps for a young lady. In 1842 the new hobby was criticized by Punch. In 1860 stamp collecting began to be systematically carried on with regard to different kinds of paper, watermarks, perforations, shade of color and distinctive outline. In 1862 a teacher in Paris required pupils to collect and paste stamps in atlases and geographies according to countries, and this may have been the first form of systematic classification of stamps in a collection.

Q. In my stamp album there is a white line drawn through the pictures of stamps. What is the reason for this? M. R.

A. The law requires that pictures of all postage stamps have a line drawn through them to prevent counterfeiting.

Q. Does King George limit his stamp collection to any particular variety? A. E. P.

A. His Majesty limits his collection to stamps of the British Empire.

Q. Is it against the law to send a person a dun on a postal card? C. W.

A. Dunning postal cards are included in unmailable matter under the postal regulations.

Q. Is it a crime to draw a post office money order under an assumed name? E. T. P.

A. The Post Office Department says that there is no law prohibiting the use of an assumed name in making out money orders so long as it is not done for a fraudulent or unlawful purpose. Trouble might be caused if the payee of a money order had assumed a name and could not prove identity when trying to cash the order.

Q. Can mail carriers carry on any other business? I. D. C.

A. There is no rule against mail carriers practicing other trades after the duties of the day have been performed.

Q. What country first issued stamps? J. E. S.

A. The history of postage stamps begins with the issues made by Great Britain in 1840 under the administration of Sir Rowland Hill. The successful use of stamps in the postal service of Great Britain resulted in the adoption of stamps by Mauritius, an English colony, by Brazil, France, Switzerland and the United States before 1850. The example was followed by many other countries, and since 1860 nearly all

have adopted the postage stamp.

Q. Is it true that United States postage stamps used to bear water-marks? M. F. P.

A. All United States postage stamps were issued on water-marked paper from 1895 until 1916. The water-mark consisted of the letters "U. S. P. S." The earlier water-marks consisted of double line letters, which were later changed to single line.

Q. What holidays are observed by the Postoffice Department? M. A. C.

A. January 1, February 22, May 30, July 4, Labor Day, Thanksgiving Day and Christmas are the holidays that are given to employees of the Postoffice Department.

Q. Why can't the stamps on stamped envelopes be cut off and used? G. E. M. C.

A. The law provides that to be valid for postage Government stamped envelopes must be used to enclose letters. Obviously the stamp when separated from the envelope cannot be so used. In other words, the envelope is part of the stamp, and the latter is not good for postage when removed from it. Provision is made, however, for redemption in other stamps of stamped envelopes spoiled in addressing or otherwise made unserviceable, provided they are presented at the postoffice by the original owner in a substantially whole condition.

Q. Does a special delivery boy have to take civil service examination? R. B. McN.

A. Special delivery carriers are not on the classified civil service list. A person interested in securing a position of this kind should apply to the local postmaster.

Q. Is a rural mail carrier required to deliver parcel post packages? M. H.

A. He is not. The carrier takes the parcel on his daily route and if the addressee is not within calling distance or at the box to receive it he leaves a note in the letter container to the effect that the parcel will be brought the next day.

Q. When postal employees work on Christmas Day, do they get a holiday afterward? T. O.

A. Postal employees who are required to work on Christmas Day because of the condition of the mails, are granted compensatory time on any of the following working days within thirty days after Christmas. It has been the policy of the Department to limit to the absolute minimum the employment of men on Christmas Day, and during this past year rural carriers were granted holiday the entire day, and city carriers and clerks excused at noon.

Q. How long has the Postoffice Department carried packages? B. L.

A. Parcels have been carried by it since its establishment. Prior to 1912 the limit of weight was 4 pounds. The Parcel Post Law was enacted August 24, 1912, and this act provided for the extension of limits of weights of parcels and provided zone rates. It also contained provisions for the establishment of C. O. D. and insured services.

Q. Is it proper in addressing a letter to a person in the same city to address it City, or should the name of the place be written out? C. P. C.

A. The Postoffice Department does not advocate the use of the word City when a communication is being sent to an addressee of the same city as the sender. It is less confusing for the postal clerks when the city and state are written after the street address.

Q. How far from a postoffice are special letters delivered free of charge? N. H.

A. Persons living within one mile of the postoffice shall have special delivery letters delivered free of charge. If a letter is delivered to an address over one mile from the postoffice a fee of 8 cents shall be collected.

Q. Why doesn't the postoffice redeem postage stamps for cash? C. S. P.

A. Adhesive postage stamps are not redeemed in cash because there is no authority in law for so doing. It is a measure of protection against the use of stamps for remittances, which use is contrary to the interests of the postal service, since it diverts the postal revenues from their proper channel, causing the mailing postoffice to do the work while the selling postoffice gets the revenue. Another objection to redemption is that it would afford opportunity for postoffice burglars to realize upon their plunder.

Q. What is the highest salary for a postmaster? J. K. M.

A. When the receipts of an office reach $40,000, it goes into the first-class. The salary in this class begins at $3,200 and increases by statutory graduations until it arrives at $8,000, the statutory maximum. This is reached when the receipts are $7,000,000 and upwards.

Q. Will a qualified rural mail carrier be appointed anywhere a vacancy occurs, or will he have to wait for one in his own community? C. S. M.

A. It is necessary for a qualified rural carrier to wait for a vacancy at his home postoffice, the appointment being restricted to residents of the community where the vacancy exists.

Q. Can an officer of an institution receive and sign for registered and insured mail for students? M. M. J.

A. Registered and insured mails if endorsed as follows, "Deliver to addressee only," should be delivered to the person to whom it is addressed. If not so endorsed, the mail may be received by the person prescribed to receive the ordinary mail in an institution.

Q. How many people does one postman serve? C. W.

A. The number of residences served by city carriers averages from 1,200 to 1,500, depending upon the topography of the jurisdiction served.

Q. Would a rural mail carrier be allowed his 15 days leave of absence with pay, when he is to be retired on account of age and disability? J. A. W.

A. He would be allowed whatever accrued leave he is entitled to.

Q. Do the Philippine Islands have their own postage stamps, or do they use the United States stamps? C. G.

A. The Philippines have their own stamps. However, United States stamps are also used.

Q. When sending a typewritten unsealed letter, must a two-cent stamp go on the letter? C. R.

A. Typewritten letters or those written by hand, whether sealed or unsealed, cannot be mailed at less than the letter rate, except where the drop letter rate is in effect. The letter rate is two cents for each ounce or fraction thereof.

Q. Should the City and State be written on the same line on an envelope? E. F.

A. The Postoffice Department prefers them on separate lines. This enables postal employees to classify the mail more rapidly.

Q. How often does mail leave this country for the Philippines? C. M. K.

A. Steamers carrying mail to the Philippines leave the west coast approximately five or six times per month.

LIV

PRESIDENTS AND VICE PRESIDENTS

Q. What is the exact wording of the President's oath as formally demanded by the Constitution? M. A. H.

A. "I do solemnly swear that I will faithfully execute the office of President of the United States, and will to the best of my ability protect and defend the Constitution of the United States."

Q. Was there a President who would have been elected unanimously, but for one vote? A. W.

A. James Monroe received all but one of the electoral votes in 1820. An elector from New Hampshire voted for John Q. Adams in order that no President other than George Washington should have the honor of receiving a unanimous vote.

Q. How often does the President get paid? G. W.

A. The President of the United States is paid once a month. His check is for $6,250.

Q. Who was the President without a party? R. C. R.

A. Tyler, after vetoing two bills re-establishing a National bank and all the members of his Cabinet except Webster had resigned, was known throughout his administration as a President without a party. He was in constant strife with Congress.

Q. How long a period elapsed between the death of President Harding and the assumption of the office of President by Mr. Coolidge? J. A. K.

A. Three hours and seventeen minutes. Roosevelt was sworn in thirteen hours and twenty-one minutes after McKinley's death.

Q. Which of the Presidents had no children? R. S.

A. The Presidents of the United States who had no children were: Washington, Madison, Jackson, Polk, Buchanan and Harding.

Q. What President never cast a vote? M. C. S.

A. It is said of Zachary Taylor, that from the time he was old enough to vote, he never stayed in one place long enough to qualify as a voter.

Q. What is the license number on President Coolidge's automobile? F. W. N.

A. The number 100 is always reserved for the President's car.

Q. What Presidents of the United States were the sons of preachers? H. E. P.

A. Chester A. Arthur, Grover Cleveland and Woodrow Wilson were sons of ministers of the Gospel.

Q. Did any ex-President other than Woodrow Wilson die in Washington? L. J.

A. John Quincy Adams is the only other President who died in Washington after he had completed his term of office as President.

Q. Who was the Vice President who never assumed the duties of his office? J. O. S.

A. William R. King, elected Vice President in 1852, by reason of ill health, never entered upon the discharge of his official duties. By special act of Congress the oath of office was administered to him in Cuba and his death occurred soon thereafter.

Q. Who was the wealthiest President of the United States?

A. George Washington is said to have been the richest, his possessions having exceeded $1,000,000 in value.

Q. Has a Vice President ever resigned? L. W. K.

A. The only Vice President who resigned the office was John C. Calhoun. This occurred in 1832, and Mr. Calhoun soon thereafter took his seat in the Senate, to which body he had been elected by the legislature of South Carolina.

Q. What President had so cold a manner that a form of influenza was nicknamed for him? J. T.

A. Your reference is evidently to President Tyler. A Boston man contracted influenza a few hours after greeting the President. The victim explained: "I probably caught cold from shaking hands with the President." The malady was called "Tyler grippe."

Q. Who was the first of our Presidents to have a valet?

A. W. H. Crook, who was for years connected with the White House, says in his memoirs that Arthur was probably the first.

Q. Why was Senator Atchison President for a day instead of the incoming President being inaugurated? R. S.

A. Zachary Taylor was to be inaugurated and he did not arrive in Washington in time to take the oath of office privately on March 4th, which fell on Sunday. He was inaugurated on Monday, March 5, 1849.

Q. Has there ever been a time when the President of the United States was not paid his salary? T. G. B.

A. During the panic of 1837 it was said that there were times when the President could not always get his salary when due from the Treasury.

Q. Which President had the most children? B. M. N.

A. William Harrison had the largest family, six sons and four daughters.

Q. What President said that he paid for his education by selling wheat and hogs? U. N. N.

A. Benjamin Harrison said: "I have not great learning, but what little I have acquired was paid for from the proceeds of some wheat and hogs."

Q. What two former Presidents of the United States died on the same day? K. F. D.

A. John Adams and Thomas Jefferson both died on July 4, 1826, the fiftieth anniversary of the Declaration of Independence.

Q. Who was the President of the United States when the Grand Duke Alexis visited this country? D.

A. The Grand Duke Alexis of Russia visited the United States in 1872. President Grant was holding office at that time.

Q. Does President Coolidge belong to a college fraternity? K. L. C.

A. He is a Phi Gamma Delta.

Q. Was Theodore Roosevelt a millionaire? G. P.

A. The estate of the late President Roosevelt was valued at $981,171, according to an accounting by the executors and trustees.

Q. What was President McKinley's favorite poem? R. D.

A. The Song of the Mystic by

Father Ryan is said to have been his favorite.

Q. Why was the salary of the President first fixed at $25,000? A. B. A.

A. George Washington, the first President, refused a salary, saying that he would accept expenses only. President Washington kept a minute account the first year and found that he had spent 5,000 English pounds, about $25,000. For this reason the salary of the President was fixed at $25,000.

Q. It is said that Roosevelt could read a page almost as quickly as some people read a line. How did he do it? M. A. T.

A. President Roosevelt was able to read very fast by a method commonly known as visualization of the text; that is, the eye covered more than one word at a time and long practice enabled the brain to register what the eye covered.

Q. When did the late President Wilson say "Would that we could do something at once dignified and effective to knock Mr. Bryan once for all into a cocked hat"? F. T. P.

A. The Clark campaign managers gave out on the eve of the Jackson Day Dinner in Washington in January, 1912, Wilson's letter to Adrian H. Joline, president of the Missouri, Kansas and Texas Railway, which contained the celebrated statement.

Q. Does the President have a yacht of his own? How much did it cost? A. M. E.

A. The Mayflower, owned by the Government and kept for the use of the President, cost $430,000.

Q. Didn't President Grant change his name so that his initials were U. S.? O. G. D.

A. President Grant's name was changed by the Member of Congress who made out his application to enter West Point. He was named Hiram Ulysses and was called Ulysses. Congressman Hamar wrote the name Ulysses Simpson Grant, Simpson being the youth's mother's maiden name, and the error was never corrected.

Q. Did President Cleveland take the oath of office on a Bible furnished especially for the occasion? D. R.

A. The little pocket Bible which was used when Cleveland was inaugurated was given to him by his mother when Cleveland was a little boy.

Q. What was the relationship between President John Adams and President John Quincy Adams? S. E. T.

A. John Quincy Adams, the sixth President of the United States, was the eldest son of John Adams, second president of the Republic.

Q. Whose was the first funeral held in the White House? D. H.

A. President William Henry Harrison's was the first.

Q. Is it the rule or custom of the President to pardon only upon the recommendation of the Attorney General? D. G.

A. The Office of the Attorney General says pardoning power rests with the President and it is not obligatory for him to consult with the Attorney General. It is, however, quite customary for such consultation to take place.

Q. Is a President officially notified of his election? C. A. B.

A. The White House says that a President-elect is not officially notified of his election.

Q. How many times has a Vice-President succeeded as President? V. T.

A. This has occurred six times, at the deaths of Harrison in 1841; Taylor, 1850; Lincoln, 1865; Garfield, 1881; McKinley, 1901, and Harding, 1921.

Q. Is it true that one of our Presidents was never buried and that the burial place of one other has been lost? F. H. D.

A. President Taylor was not accorded burial services. Following his death his remains were immediately taken to Kentucky by his brother and placed in a vault in the Taylor Cemetery about five miles from Louisville. The grave of President Tyler has been lost in so far as it is not marked by a stone. Church records locate it near the grave of President Monroe in Hollywood Cemetery, Richmond, Virginia.

Q. When did Roosevelt first advocate the recall of judicial decisions? S. P.

A. In February, 1912, when in an address to the Ohio constitutional convention he said: "If any considerable number of people feel that a decision is in defiance of justice, they should be given the right by petition to bring before the voters at some subsequent election, special or otherwise, as might be decided, and after the fullest opportunity for deliberation and debate the question whether or not the judges' interpretation of the constitution is to be sustained."

Q. How many Senators have been elected President of the United States? R. E. P.

A. No Senator, except the late President Harding, has gone directly from the Senate to the White House. Garfield was elected President while Senator-elect, but had not yet taken his seat. The Presidents who were Senators previous to their election are as follows: James Monroe, Senator from Virginia; John Q. Adams, Senator from Massachusetts; Andrew Jackson, Senator from Virginia; Martin Van Buren, Senator from New York; Wm. H. Harrison, Senator from Ohio; John Tyler, Senator from Virginia; Franklin Pierce, Senator from New Hampshire; Andrew Johnson, Senator from Tennessee; James A. Garfield, Senator from Ohio; Benjamin Harrison, Senator from Indiana; and Warren G. Harding, Senator from Ohio. Former President McKinley served in the House of Representatives previous to his being elected governor of Ohio, as had Lincoln.

Q. Where did Johnson take the oath of office after Lincoln's death? A. C.

A. Andrew Johnson was hastily sworn in as President, on the night after Lincoln's death, in a hotel that stood where the Raleigh Hotel now stands.

Q. Please state what Presidents left the United States while in office? R. A. R.

A. Presidents who have left the confines of the United States while in office were: Roosevelt—visited the Panama Canal Zone and went to the City of Panama; Taft—crossed the border into Mexico and dined with President Diaz at Juarez; Cleveland — on a fishing trip exceeded the boundary of the United States; Wilson—Peace Conference in Europe; Harding—British Columbia, Canada.

Q. How many Presidents have had their pictures on postage stamps? B. C.

A. Fifteen Presidents' portraits have appeared on United States postage stamps. They are as follows: Washington, Jefferson, Madison, Monroe, Jackson, Polk, Tyler, Lincoln, Grant, Hayes, Garfield, Cleveland, McKinley, Roosevelt, and Harding.

Q. Was President Hayes inaugurated twice? A. G. L.

A. Rutherford B. Hayes was inaugurated both on March 4, 1887, which was a Sunday, and on the following Monday, President Grant nonimally holding office until noon on Monday. In referring to the matter President Hayes said it was done as a precaution. Since the

fourth of March came on a Sunday and the inauguration ceremonies were fixed for Monday, he thought the question might arise as to the legality of the ceremony on that day. The Oath of Office was therefore administered at the White House on Sunday, by Chief Justice Waite.

Q. Was Andrew Jackson ever governor of Florida? P. M. E.

A. Andrew Jackson was the first territorial governor of Florida serving in 1821-1822.

Q. Who were the sons of Presidents that attended the Gridiron Club dinner in Washington, and who were the absentees? J. H. B.

A. Those present were Abram Garfield, Irvin Garfield, James R. Garfield, Dr. Harry A. Garfield; Theodore, Archibald, and Kermit Roosevelt; Robert and Charles Taft; John and Calvin Coolidge. Those declining invitations were Dr. Lyon Gardiner Tyler, B. Gardiner Tyler, Russel B. Harrison, U. S. Grant, Jesse R. Grant, Webb Hayes, Chester A. Arthur, Robert Todd Lincoln, Richard Folsom Cleveland, Francis Grover Cleveland. Webb Hayes declined both for himself and his brother.

Q. Has the President the power to pardon a state prisoner from a state penitentiary? J. E. K.

A. The President has not such power.

Q. Which of the Presidents had March for a birth month? D. F. R.

A. There have been four. Madison was born on March 16; Jackson March 15; Tyler, March 23; and Cleveland, March 18.

Q. Did any of the Presidents of the United States ever celebrate their Golden Wedding Anniversaries? C. A. S.

Q. The Presidents who lived a married life of fifty years or more were John Adams and John Quincy Adams. The former was married in 1764 and Mrs. Adams died in 1818. He died in 1826. John Quincy Adams was married in 1797. His wife died in 1852 and he in 1848. We find no record that the golden wedding anniversaries were formally celebrated.

Q. Who were the Independent candidates for President and Vice President in 1908? N. T.

A. For President, Thomas L. Hisgen, of Massachusetts; for Vice President, John Temple Graves, of Georgia.

Q. Is there an Assistant to the President? W. T. K.

A. At the present time there is no such office as Assistant to the President. The creating of the position of Executive Assistant or Assistant to the President has been discussed, as it has been thought possible to relieve the President of some routine executive duties.

Q. Did one President decline to witness the inauguration of his successor? H. G. D.

A. When Thomas Jefferson proceeded to the Capitol to take the oath of office in what is now the chamber of the Supreme Court, John Adams refused to accompany him.

Q. What commission did Garfield hold in the Army? K. R.

A. He entered the Civil War as a lieutenant-colonel and rose to major-general. He resigned his commission to take his seat in the House of Representatives in 1863

Q. Did President Wilson speak enough French to see him through the Peace Conference? J. M. W.

A. The late President Wilson had a general knowledge of the French language but was not sufficiently fluent to dispense with the services of an official interpreter during the Peace Conference in Paris.

Q. Has a Speaker of the House ever been elected President? P. H. McM.

A. James K. Polk is the only Speaker of the House of Representatives to have been elected President. Other Speakers have been prominent presidential candidates, notably Henry Clay, James G. Blaine, Thomas B. Reed, Joseph G. Cannon and Champ Clark.

Q. What salary does an ex-President receive? W. A. M.

A. He receives no salary for having been President.

Q. Where did President Harding help harvest wheat in the summer of 1923? D. H.

A. President Harding went into the wheat fields near Hutchinson, Kansas, which is in the south central part of the State on June 23, 1923. He ran a binder and shocked a few sheathes on a hundred acre wheat field known as the Chester O'Neil farm.

Q. Who was the first President to write his message to Congress? N. C. P.

A. Washington and Adams followed the King's example in opening Parliament, addressing Congress in person. Jefferson, the exponent of simplicity, inaugurated the custom of sending written messages.

Q. How many children did President Cleveland have? M. P. D.

A. The Clevelands had five children—three girls and two boys. Their names were Ruth, Esther, Marion, Francis G. and Richard Folsom.

Q. How many brothers did President McKinley have? Are they living? J. W. W.

A. The brothers of William McKinley were David, James and Abner. They died many years ago.

Q. Who was the poorest President of the United States? C. D.

A. It would be impossible to obtain official information on this point. It is currently reported, however, that James Monroe, while maintaining the Presidential office in sufficiently good style, retired from office completely broke.

Q. Woodrow Wilson was said to have been elected President in 1916 because he "kept us out of war." Was a President ever elected who was pledged to get us into war? S. M.

A. Madison was renominated by the Republican or Democratic party in 1812, on his express agreement to declare war against Great Britain.

Q. Has a President of the United States ever visited Canada? J. T. G.

A. The visit to Vancouver, British Columbia, of the late President Harding, was the first and only time an American President has been in the Dominion during his term of office. It was shortly after he left Vancouver that Mr. Harding suffered an attack of ptomaine poisoning which marked the beginning of his fatal illness.

Q. Who was Vice President and President of the Senate during Andrew Johnson's administration? T. W. H.

A. There was no Vice President when Andrew Johnson succeeded to the Presidency through the assassination of President Lincoln. Senator Daniel Clark of New Hampshire officiated as President of the Senate.

Q. Did Woodrow Wilson ever sleep in Buckingham Palace? J. M.

A. President and Mrs. Wilson occupied the Belgian suite at Buckingham Palace from December 26 to December 31, 1918.

Q. Which Presidents had mothers living at the time they were inaugurated? H. G.

A. The Presidents whose mothers lived to see their sons receive the highest honor in the nation's gift, were: Washington, Madison, Monroe, J. Q. Adams, Polk, Johnson, Grant, Garfield, and McKinley. Those who did not were: Adams, Jefferson, Jackson, Van Buren, W. H. Harrison, Tyler, Taylor, Fillmore, Pierce, Buchanan, Lincoln, Hayes, Arthur, Cleveland, Benjamin Harrison, Roosevelt, Taft, Wilson, Harding, and Coolidge.

Q. I frequently see this in the paper, "President and Mrs. Coolidge attended the First Congregational Church in Washington, of which he is a member." To what church does Mrs. Coolidge belong? T. E. M.

A. Mrs. Coolidge is a member of the Congregational Church at Northampton. Her membership has not been transferred to the First Congregational Church in Washington, D. C.

Q. When a Vice President succeeds to the Presidency, does he use the chair occupied by the former President? S. S.

A. It is customary for the chair which has been used in the office of the President of the United States to be placed at the disposal of the outgoing President or of his family in the case of his death. This has been done in the case of President Harding's chair.

Q. When the Prince of Wales lunched with the President, what was the order of service? A. M.

A. The head steward of the White House says that the procedure of service was as follows: President Coolidge, Mrs. Coolidge, the Prince of Wales.

Q. What President actually had the most individual votes cast for him? T. P.

A. Warren G. Harding had the high mark when 16,152,300 people indicated him as their choice in 1920.

Q. What Presidents of the United States are spoken of as war presidents? C. H.

A. They were as follows: Madison, War of 1812; Polk, Mexican War; Lincoln, Civil War; McKinley, Spanish-American War and Wilson, World War

Q. What were the soubriquets of President Johnson, Arthur, and Cleveland? M. G.

A. President Johnson was sometimes spoken of as "Sir Veto;" Arthur, "America's First Gentleman" and "Our Chet;" and Cleveland, the "Man of Destiny."

Q. Who was the youngest President? H. B. M.

A. Theodore Roosevelt had that distinction. He lacked a month of being 43 years of age when inaugurated.

Q. Who held Lincoln's hat during the first inaugural exercises? W. S.

A. Stephen A. Douglas, Lincoln's bitter political opponent.

Q. Do the President and the Vice President have offices in the Capitol? H. L.

A. The Vice President's office is in the Capitol. There is also a room called the President's room. It is for the use of the President of the United States on his visits to the Capitol. It is decorated with portraits of President Washington and his first cabinet, Knox, Randolph and Osgood. There is also a bronze bust of McKinley. The Executive Office is in the White House grounds.

Q. What men who later became President attended Lincoln's Inaugural? L. A. P.

A. "Seventy-five years of White House Gossip" says that in the audience were four men who later succeeded to the office of President—Rutherford B. Hayes, James A. Garfield, Chester A. Arthur, and Benjamin Harrison.

Q. Which President appointed each Chief Justice of the United States? C. J.

A. The Chief Justice of the Supreme Court in the order in which they were appointed, together with the President who appointed them are John Jay, 1789-1795, Washington; John Rutledge, 1795 (not confirmed). Washington; Oliver Ellsworth, 1796-1801, Washington; John Marshall, 1801-1835, Jefferson; Roger Taney, 1836-1864, Jackson; Salmon Chase, 1864-1873, Lincoln; Morrison Waite, 1874-1888, Grant; Melville Fuller, 1888-1910, Cleveland; Edward D. White, 1910-1921, Taft; Wm. H. Taft, June 30, 1921, Harding.

Q. Was the late President Harding's life insured, and if so for how much? H. K.

A. The late President Harding carried life insurance amounting to $52,000.

Q. Must the President of the United States take the oath of office in Washington? N. R.

A. Customarily the President takes the oath of office in Washington, but there is no provision of law to that effect. For instance, Calvin Coolidge, was sworn in at his father's home in Plymouth, Vermont.

Q. How many statues of President Polk are there in Washington, D. C.? A. V. H.

A. There is no statue of James K. Polk in Washington. The Capitol does not even contain a marble replica of this President.

Q. Were any of the Presidents of the United States uneducated? A. T. S.

A. None of the Presidents can be said to have been uneducated. Many were self-educated to an extent, including Lincoln, Garfield, Grant and Cleveland. Andrew Johnson in his early youth was illiterate, and up to the time of his marriage had great difficulty in reading and writing. His wife devoted herself to his improvement and in his later life he had acquired a fair degree of cultural education.

Q. Did President Lincoln's body lie in state in New York City? E. C.

A. The body of Abraham Lincoln lay in state in the City Hall, New York City, from the arrival of the funeral train Tuesday, April 24, 4 P. M., until noon Wednesday, April 25, 1865.

Q. Is it true that the late ex-President Roosevelt rode a hundred miles on horseback in a single day? R. E. T.

A. In February, 1909, President Roosevelt rode ninety-eight miles on horseback in the seventeen hours between daylight and dark. The trip was from Washington to Warrenton and return. Three horses were used.

Q. Is Warren G. Harding's middle name Gamaliel a Biblical name? A. M. P.

A. Gamaliel means God is a reward, and two persons of that name are mentioned in Bible history.

Q. Was Andrew Johnson elected to the Senate after he was President? Z. W. C.

A. Andrew Johnson's term as President ended in 1869—and in 1875 he was elected to the United States Senate. He served during the extra session which convened in March, and died in July, 1875.

Q. How many children did Andrew Jackson have? J. H. D.

A. President Jackson had no children of his own. He adopted a son, a nephew of Mrs. Jackson. He was named Andrew Jackson Donaldson, and in 1860, was candidate for Vice President with Millard Fillmore.

LV

QUOTATIONS

Q. Who coined the expression "While there is life there is hope"? M. D.

A. This is attributed to Cicero, the exact quotation being, "While the sick man has life there is hope."

Q. Where can the lines "A thing of beauty is a joy forever" be found? H. F.

A. "A thing of beauty is a joy forever" is the opening line of Keats' "Endymion."

Q. Can you tell me the author of the expression "Hell is paved with good intentions"? C. E. A.

A. Samuel Johnson used the expression "Hell is paved with good intentions," according to Boswell's Life of Johnson, and an earlier saying to much the same effect, "Hell is full of good meanings and wishes" is attributed to George Herbert.

Q. Who was it said "Cleanliness is next to godliness"? C. E. B.

A. It was made use of in a sermon by Rev. Charles Wesley, the founder of the present Methodist Church.

Q. Who said handsome is as handsome does? M. G.

A. The saying "handsome is as handsome does" may be found in proverbial literature of all countries. The early fathers of the church and medieval moralists were extremely fond of it.

Q. Who said that we should speak only good of the dead? H. O.

A. The saying, "De mortuis nil nisi bonum"—Of the dead be nothing said but what is good"—is of unknown authorship.

Q. Who said "Spare the rod and spoil the child"?

A. This statement is often erroneously attributed to Solomon, but is from "Hudibras" and is found in Part II, Canto. 1, verse 45. Solomon's saying was "He that spareth the rod hateth his son"—Proverbs XIII, 24.

Q. Who first said "All the world's a stage"? E. M.

A. This saying is generally attributed to Shakespeare but A. J. Butler gives us the following translation of an old Greek poem written by Palladius of Alexandria centuries before Shakespeare. "All the world's a stage, a show; Then learn thy part with all thy heart Or bear the burden of thy woe."

Q. Who said "A man's home is his castle"? C. E.

A. The exact quotation is "For a man's house is his castle" from Sir Edward Coke's Institutes.

Q. Who first used the phrase, "circumstances over which I have no control"? R. C. K.

A. According to various authorities, it was first used by the Duke of Wellington with reference to some business complications with which his son was mixed up in 1839 or 1840. Charles Dickens, however, popularized the saying by using it in his "David Copperfield."

Q. Who said "Neither a borrower nor a lender be"? W. C. G.

A. Shakespeare uses the line in "Hamlet."

Q. I am told that the warning "beware of the dog" comes from the Bible. Is this correct? S. W.

A. In Philippians 3-2 is to be found the following injunction—"Beware of the dogs."

Q. What is the origin of the saying "she looks as if butter would not melt in her mouth"? A. R. S.

A. The quotation is from "Polite Conversation," by Swift. There is, however, a similar saying in the proverbs of Heywood.

Q. What is the quotation about gold that says "it dissolves every doubt and scruple"? P. T. P.

A. "Gold is a wonderful theatre of the understanding. It dissolves every doubt and scruple in an instant. It accommodates itself to the meanest capacity, silences the loud and tremulous and brings over the most obstinate and inflexible." Addison.

Q. Who said "Be sure you are right, then go ahead"? L. M.

A. This was the motto of Davy Crockett in the War of 1812.

Q. Who was it said all men are great in their dreams? O. P.

A. The saying is credited to Freud, one of the most acute and painstaking of all the students of dream phenomena.

Q. Was the expression "a government of the people, for the people, and by the people" original with Lincoln? S. M. S.

A. There is a tradition that a similar phrase appeared in the preface of the Wyclif Bible of 1384, or in the Hereford Bible, or in a pamphlet of that period.

Q. What is the meaning of the quotation: "Where the MacGregor sits is the head of the table"? A. M. H.

A. The story is that the head of the Scottish clan of MacGregor was once seated at the table in a position which did not befit his high office. When some mention was made of this situation, he is said to have replied in the words of the now famous quotation.

Q. When was it that President Wilson said in a speech that America was a melting pot? W. H. C.

A. The expression melting pot was used by President Wilson in his Music Hall speech delivered in Cincinnati, October 26, 1916. He said, "America is not made out of a single stock. Here we have a great melting pot." The expression was used in reference to the United States because its historic policy has been to keep open door to the oppressed people of all nations and to merge those who accept its hospitality into one nation of common language and common political ideals.

Q. What is the quotation "absence makes the heart grow fonder" from? H. K.

A. It is from the "Isle of Beauty" by Thomas Haynes Bayly.

Q. What did Shakespeare mean in his allusion to a precious jewel found in the head of the ugly and venomous toad? J. B.

A. W. J. Rolfe in his notes on "As You Like It" says: "Better naturalists than Shakespeare believed in the toad stone, the 'precious jewel' of the text. Fenton, in his Secrete Wonders of Nature, 1569, says that 'there is founde in the heades of old and great toades, a Stone which they call Borax or Stelon; it is most commonly founde in the head of a hee toad, of power to repulse poysons and that it is a most soveraigne medicine for that stone'." Allusions to it are frequent in the literature of that day.

Q. What poem contains the lines "Backward, turn backward, Oh time in your flight"? C. C. C.

A. This is the opening line of "Rock Me to Sleep" by Elizabeth Akers Allen, who wrote under the pen name of Florence Percy.

Q. Who said "A pound of pluck is worth a ton of luck"? M. C.

A. This epigram is attributed to James A. Garfield.

Q. Can you give me the complete quotation about "blessings on him who invented sleep"? I. M. C.

A. The quotation is from the "Don Quixote" of Cervantes, and is as follows: "Now, blessings light on him that first invented this same sleep! It covers a man all over, thoughts and all, like a cloak; it is meat for the hungry, drink for the thirsty, heat for the cold, and cold for the hot. It is the current coin that purchases all the pleasure of the world cheap, and the balance that sets the king and the shepherd, the fool and the wise man, even."

Q. Who suggested that the motto of the United States be "E Pluribus Unum"? M. C. T.

A. This national motto was proposed by Franklin, Adams and Jefferson, the committee appointed by Congress, July 4, 1776, to prepare designs for a seal. It means "one out of many."

Q. Was it Washington who said that there never was such a thing as a good war or a bad peace? G. A. M.

A. In a letter to Josiah Quincy, Benjamin Franklin used the expression "There never was a good war or a bad peace." However, Samuel Butler is also credited with a similar saying "It hath been said that an unjust peace is to be preferred before a just war."

Q. Who said "Educate the women and the men will be educated"? L. W.

A. This saying is attributed to Mary Lyon who was responsible for the founding in 1836 of Mt. Holyoke Female Seminary. From her work at Holyoke sprang modern higher education for women in America.

Q. Who originated the phrase "One step from the sublime to the ridiculous"? A. B. D.

A. Although this saying is generally attributed to Napoleon, it is to be found in the works of Tom Paine, before Napoleon's time. Paine says "The sublime and the ridiculous are often so nearly related that it is difficult to class them separately. One step above the sublime makes the ridiculous, and one step above the ridiculous makes the sublime again."

Q. Who said "Give me a lever long enough and I can move the world"? C. M.

A. "Give me a lever long enough, And a prop strong enough, I can single handed move the world" is attributed to Archimedes.

Q. Where can I find the quotation to the effect that a kiss is a dot on the "I" in loving? W. S. C.

A. The quotation is from Rostand's "Cyrano de Bergerac:" "A kiss, when all is said, what is it? —a rosy dot placed on the 'i' in loving."

Q. Who said "Old Glory should not only come first but no other flag should come second"? W. M.

A. Theodore Roosevelt in "American Ideals" says "The Immigrant must revere only one flag —'Old Glory'—; not only must it come first but no other flag should come second."

Q. Was "Find the Spanish fleet and capture or destroy it" actually the wording of the message sent Admiral Dewey at the outbreak of the War with Spain? M. T. M.

A. The quotation cited has frequently been given as the message

sent Dewey, but it is not exactly authentic. The Navy Department's message of April 24 announced that war had begun and directed Dewey to "commence operations at once, particularly against the Spanish fleet. You must capture vessels or destroy." The message ended, "Use utmost endeavors."

Q. Who was the author of "Let me write the songs of a people: I care not who makes the laws"? C. F.

A. Andrew Fletcher of Faltoun (1653-1716) in a letter to the Marquis of Montrose said, "I know a very wise man that believed that if a man were permitted to make all the ballads he need not care who should make the laws of a nation."

Q. Who is the Sir Hubert in the quotation "Approbation from Sir Hubert is praise indeed"? A. M. J.

A. In the expression, "Approbation from Sir Hubert Stanley is praise indeed," the reference is to Sir Hubert Stanley, an improvished squire in Thomas Morton's play, "A Cure for the Heartache," 1797.

Q. Who was it that said "The more I see of men the better I like dogs"? N. M.

A. The saying is attributed generally to Mme. de Sevigne.

Q. What was Edison's definition of genius? F. A. T.

A. He is quoted as saying that "genius is 2 per cent inspiration and 98 per cent perspiration."

Q. Please quote what Charles Frohman said when he knew that he would drown on the Lusitania. D. W. R.

A. Isaac Morcosson, in his biography of Charles Frohman says that Frohman loved "Peter Pan" the best of all the Barrie plays which he produced. "Curiously enough, it was little Peter who gave him the cue for his now historic farewell as he stood on the sinking deck of the Lusitania. At the end of one of the acts the little boy says: 'To die will be an awfully big adventure.' These words had always made a deep impression on Frohman. They came to his mind as he stood on that fateful deck and said: 'Why fear death? It is the most beautiful adventure in life'."

Q. Where do we get the saying that every man has his price? R. R. I.

A. "All men have their price" is commonly ascribed to Sir Robert Walpole.

Q. Who said "These are the times that try men's souls"? H. C.

A. This was the opening phrase of the first number of the Crisis, a series of phamphlets published by Thomas Paine in 1775. The entire clause was "These are the times that try men's souls; the summer soldier and the sunshine patriot will in this crisis shrink from the service of their country, but he that serves it now deserves the love and thanks of man and woman."

Q. About whom was this said—"Age can not wither her, nor custom stale her infinite variety"? D. A.

A. It is a description of Cleopatra from Shakespeare's "Anthony and Cleopatra."

Q. Where is the phrase "Eat, drink and be merry, for tomorrow ye may die" to be found? L. C.

A. This expression is in the Bible: Luke 12:19.

Q. Please give Theodore Roosevelt's words concerning thrift. E. V. P.

A. "Extravagance rots character; train your youth away from it. On the other hand, the habit of saving money, while it stiffens the will, also brightens the energies. If you would be sure that you are beginning right, begin to save."

Q. Who is the author of the lines "Truth is ever on the scaffold, And error on the throne"? H. E. V.

A. They appear in the following stanza from "The Present Crisis" by James Russell Lowell: "Careless seems the great avenger; history's pages but record One death grapple in the darkness 'twixt old systems and the Word; Truth forever on the scaffold, wrong forever on the throne—Yet that scaffold sways the future and behind the dim unknown—Standeth God within the shadow, keeping watch above his own."

Q. What was the origin of the expression "The good die young"? A. H. T.

A. A phrase slightly different, "Oh Sir! the good die first and they whose hearts are dry as summer's dust burn to the socket" is found in "The Excursion," Book 1, a poem by William Wordsworth.

Q. What does the expression "Turn again, Whittington" refer to? E. J. S.

A. The reference to Whittington is to Richard better known as Dick Whittington, an English merchant and Lord Mayor of London. According to popular romance, Whittington as a lad went to London and obtained work as a scullion. Growing tired of ill-usage, he started to leave the city when the Bow Bells seemed to say to him "Turn Again, Whittington, Lord Mayor of London." He, therefore, went back and eventually rose to the prophesied position.

Q. What ruler said "I am the State"? T. S. I.

A. Louis XIV is accredited with the remark "L'etat c'est moi". He was probably not the first nor the only ruler who gave expression to such a sentiment.

Q. Of what man was it said that "hell would be afraid to let him in"? R. N.

A. One of the many epigrams composed against the great Roman Cato was to the effect that his face was so hideous and forbidding that he would be compelled to wander forever on the banks of the Styx, "for hell itself would be afraid to let him in."

Q. Who is the author of the saying "The hand that rocks the cradle rules the world"? S. T. G.

A. William Ross Wallace, who was born in 1819 and died in 1881. The words are from his poem "What Rules the World."

Q. What was the origin of the expression he "escaped by the skin of his teeth"? R. E.

A. In the nineteenth chapter of Job, twentieth verse, is to be found the sentence "I am escaped with the skin of my teeth," which gives a probable biblical origin for all the expressions relative to escaping by the skin of the teeth.

Q. Upon what occasion was Pinckney's exclamation "Millions for defense, but not one cent for tribute" used as a toast? A. M. H.

A. A public banquet was given in New York in honor of John Marshall who arrived in that city June 17, 1798 after his eventful trip to France. Upon this occasion Pinckney's famous reply to the French Directory in 1796 was used as a toast.

Q. Please settle an argument by giving the source of the quotation "You can lead a horse to water but you can't make him drink." H. K.

A. This quotation is traced to John Heywood (circa 1565) in whose "Proverbes" appears: "A man may well bring a horse to the water, But he cannot make him drink without he will."

Q. Is the quotation "Comparisons are odorous" to be found in Shakespeare? W. B. S.

A. The old proverb "Compari-

sons are odious" was used in "Much Ado About Nothing" where in Act III Shakespeare caused Dogberry to misquote it and say "Comparisons are odorous".

Q. What were the famous words of the sailing orders issued by Sir John Hawkins to his ships? D. E. A.

A. "Serve God daily; love one another; preserve your victuals; beware of fire; and keep good company."

Q. What was the origin of the saying that one should not look a gift horse in the mouth? V. V. T.

A. Archbishop Trench says this proverb is as old as Jerome of the Fourth Century who, when some one found fault with certain writings of his, replied that they were free will offerings, and that it did not behoove one to look a gift horse in the mouth.

Q. What is the correct version of the mountain and Mohammed proverb? F. M.

A. In Bacon's Essay on Boldness, it is given as "If the hill will not come to Mohammed, Mohammed will come to the hill."

Q. Who said "Trust in God and keep your powder dry"? J. J. C.

A. This expression was used by Oliver Cromwell during a campaign in Ireland.

Q. Is the quotation "The Lord tempers the wind to the shorn lamb" taken from the Bible? J. R. W.

A. It is not found in the Bible. It is in a book named "The Sentimental Journey" by Lawrence Sterne, a clergyman-author of the 18th century.

Q. Who said that the history of the world is the history of the great men who have lived in it? S. C. A.

A. Perhaps you refer to the quotation from Carlyle's "Heroes and Hero Worship:" "As I take it, universal history, the history of what man has accomplished in this world, is at bottom the history of the great men who have worked there."

Q. Over the entrance of the El Tovar Hotel overlooking the Grand Canyon of Arizona is the quotation: "Dreams of mountains, as in their sleep they brood on things eternal." Who is the author? C. F. W.

A. It is from the pen of C. A. Higgins who until his death was connected with the Santa Fe Railroad Company.

Q. What is the meaning of the line, "I helped upon Haldora's shore," in the poem, "The Red Cross Spirit Speaks"? A. P.

A. The following quotation from Miss Mabel Boardman's Book will explain this allusion: "A touch of the Red Cross spirit manifested itself after a battle a thousand years ago, when Haldora of Iceland called to the women of her household, 'Let us go and dress the wounds of the warriors, be they friends or foes'."

Q. Please publish the proverb which begins "He that knows not and knows that he knows not." L. V. B.

A. This is given as an Arabian proverb in "Life of Sir Richard Burton" and runs: "Men are four: He who knows not and knows not he knows not, he is a fool—shun him; He who knows not and knows he knows not, he is simple—teach him; He who knows and knows not he knows—he is asleep—wake him; He who knows and knows he knows, he is wise—follow him."

Q. Who said of a Vice Presidential candidate, "He is big enough and sound enough to be President should occasion require"? V. S. T.

A. Judge McCamant spoke thus of Calvin Coolidge in nominating him for Vice President.

Q. Who said "Don't cut off your nose to spite your face"? L. O. M.

A. The origin of the proverb is unknown. Its earliest recorded use was by the French writer, Tallement des Reaux, 1657.

Q. Who said, "I think, therefore I am"? C. C.

A. In the philosophy of Rene Descartes one of the noteworthy points is the deliberate determination to doubt everything that could intelligently be called in question, a principle of method he employed to reach something absolutely certain. This basal fact he found in the famous proposition, "I think, therefore I am." No doubt could shake the certainty the ego possesses of its own existence.

Q. Who said "God reigns and the Government at Washington lives"? S. L.

A. James Garfield used the expression in a speech in 1865 when addressing an excited crowd on the occasion of Lincoln's assassination.

Q. Isn't there a saying about a shoemaker or his wife always going barefoot? O. T. C.

A. Burton, in his Anatomy of Melancholy, says, "Him that makes shoes go barefoot himself," and one of Heywood's Proverbs reads, "Who is worse shod than the shoemaker's wife?"

Q. Who said "A man convinced against his will, is of the same opinion still"? L. H.

A. The quotation is a paraphrase of a line in "Hudibras" by Butler—"He that complies against his will is of the same opinion still."

Q. What is the quotation about fathers burying their sons in time of war? A. F. E.

A. "In peace the sons bury their fathers, but in the war the fathers bury their sons," is a saying attributed by Herodotus to Croesus, King of Lydia, after he had been conquered.

Q. Who said "No man e'er felt the halter draw, with good opinion of the law"? M. E.

A. The quotation is from "McFingal" a burlesque epic, written by John Trumbull, American jurist and poet, in 1782.

Q. What is meant by the saying "Go to Bath and get your head shaved"? P. T. N.

A. At one time persons who showed symptoms of insanity were sent to drink the mineral water at Bath. Shaving the head was generally performed when insanity was suspected. The obvious meaning is, satirically, "You are going mad; you had better 'go to Bath and get your head shaved'."

Q. Who said that the United States was an "indissoluble union"? R. S. J.

A. It was Chief Justice Chase, of the United States Supreme Court, who characterized the American Union as "an indissoluble Union of indestructible States."

Q. What is the saying to the effect that time is more valuable than money? V. H.

A. Perhaps you refer to the saying attributed to Theophrastus, the Greek philosopher, to the effect that time was the most valuable thing that a man could spend.

Q. There is a short poem about birds being helpful to the farmer. Can you quote it and tell me the author? O. D.

A. Longfellow gives the following in one of his poems on birds: "They are the winged wardens of your farms, Who from the cornfields drive the insidious foe, And from your harvests keep a hundred harms."

Q. What was Tom Hood's famous pun about the undertaker.

A. Hood, most inveterate and

happy of a lively coterie of English punsters, is credited with having said of a certain undertaker that he appeared anxious to "win a lively Hood."

Q. What is the quotation about knowledge being the knowing that you do not know everything? B. P.

A. Confucius said "When you know a thing to hold that you know it, and when you do not know a thing to know you do not, This is knowledge."

Q. Where is the quotation "A little knowledge is a dangerous thing" found? S. P.

A. The correct wording is "A little learning is a dangerous thing." It is in Pope's Essay on Criticism.

Q. Who said "Now twilight lets her curtain down, and pins it with a star"? M. A. T.

A. This is the best known couplet written by McDonald Clarke an American who was known as the Mad Poet because of his eccentricity and conceit.

Q. Please give the epitaph that Benjamin Franklin wrote for his own tombstone? A. N.

A. The Body of Benjamin Franklin Printer, (like the cover of an old book, It's contents torn out, and stripped of its lettering and gilding,) Lies here food for worm, Yet the work itself shall not be lost, For it will (as he believes) appear once more in a new and more beautiful Edition, Corrected and Amended by the Author.

Q. Who said that Sunday was made for man and not man for Sunday? T. E. S.

A. The words, "The Sabbath was made for man, and not man for the Sabbath," are from the New Testament, Mark II, 27.

Q. Who said that Rome was not built in a day? J. F. D.

A. The quotation is from the Proverbs of John Heywood, the earliest collection of English colloquial sayings, which was printed for the first time in 1546.

Q. What is meant by the expression "Barnum was right"? Also "Sherman was right"? S. P.

A. The saying "Barnum was right" has reference to the quotation generally attributed to him "There is a fool born every minute." The expression "Sherman was right" has reference to his saying "War is hell."

Q. What is the quotation about old friends, old wine, old books, etc.? R. A. E.

A. "I love everything that's old: old friends, old times, old manners, old books, old wine" is from Act I of Oliver Goldsmith's "She Stoops to Conquer."

Q. Who said "the way to resume is to resume"? G. H. C.

A. The exact quotation is 'The way to resumption is to resume" and is contained in a letter written by Salmon P. Chase to Horace Greeley on March 17, 1866.

Q. Who said "I have often times been driven to my knees when I had no place else to go"? C. L.

A. Abraham Lincoln said: "I have been driven many times to my knees by the overwhelming conviction that I had nowhere else to go. My own wisdom and that of all about me, seemed insufficient for that day."

Q. What is the exact "Too-proud-to-fight" quotation? B. M.

A. President Wilson in a speech made by him May 10, 1915, at Philadelphia, Pa., gave the following statement: "The People of America must be the example not merely of peace, because it will not fight, but of peace because peace is the healing and elevating influence of the world, and strife is not. There is such a thing as a man being too proud to fight, there is such a thing

as a nation being so right that it does not need to convince others by force that it is right."

Q. Who said "Stone walls do not a prison make"? H. L. C.

A. The quotation is from the poem "To Althea from Prison" by Richard Lovelace.

Q. Who wrote "Give to the world the best you have and the best will come back to you"? Y. T. B.

A. Mary Ange DeVere whose pseudonym is "Madelaine Bridges" wrote these lines. The poem in which they appear is called "Life's Mirror."

Q. What did Michelangelo mean by saying "I carry my satchel still"? H. C. V.

A. This remark, made late in life, embodies the thought that, though an elderly man, Michelangelo was still a student.

Q. What is the translation of the Latin inscription on the Confederate Monument in Arlington? M. B.

A. The Latin is "Victrix causa diis placuit sed victa Catoni" and is translated "The Victorious cause was pleasing to the gods, but the lost cause to Cato."

Q. Of whom was it said that his foe was folly and his weapon wit? B. F.

A. That is the inscription on the memorial to W. S. Gilbert, the famous English light-opera librettist.

Q. Who said there is no book so bad but something good may be found in it? T. T.

A. The quotation is from Cervantes' Don Quixote. Pliny the Younger also ascribes the saying to Pliny the Elder in a slightly different form—"No book is so bad but some good might be got out of it."

Q. What is the saying about a dead Indian being a good Indian and who originated it? M. McM.

A. The saying to which you probably refer is "The only good Indian is a dead Indian." It has been attributed to General Nelson A. Miles, but General Miles afterward said that this was an error and he had never made such a statement.

Q. Who said that "rebellion to tyrants is obedience to God"? S. D. S.

A. Thomas Jefferson's bookplate and personal seal bore the inscription, "Rebellion to tyrants is obedience to God." The quotation has been attributed to Benjamin Franklin.

Q. Did Caesar really say "Et tu Brute" when struck down by Brutus? N. S. T.

A. There is no actual Latin authority for attributing it to Caesar. Shakespeare is responsible for the wording which appears in his play, Julius Caesar.

Q. Who said "Put none but Americans on guard"? J. J. M.

A. The phrase "Put none but Americans on guard" was one of the mottoes of the Know Nothing Party. It is controversial in regard to its origin, some ascribing it to General Putnam, others to George Washington.

Q. Who said that a mugwump is a person educated beyond his intellect? R. C. S.

A. Horace Porter gave utterance to this famous bon mot during the Cleveland-Blaine campaign of 1884.

Q. Did President Roosevelt coin his adage, "Speak softly and carry a big stick"? D. P. R.

A. On April 2, 1903, President Roosevelt, in addressing a Chicago audience said, "There is an old adage 'Speak softly and carry a big stick'."

LVI

RACES OF MAN

Q. Who are the most northerly people in the world? F. K. G.

A. The Bureau of Ethnology says that the Eskimos of Smith Sound, Greenland, are the most northerly people in the world.

Q. Are bachelors common in China? H. N.

A. Bachelors and old maids in health and mature years are unknown. Marriage is universal.

Q. Do dialects appear in the Indian language as in other languages? H. T. T.

A. The Smithsonian Institution says that there are about 45 stocks of languages with approximately 300 dialects.

Q. Why does the Maori warrior tattoo his face? M. D.

A. It disguises or masks any expression of fear.

Q. Are the Jews in a majority in Palestine? H. M. W.

A. The Jews are in a minority in Palestine. There are three times as many Arabs as Jews. Christians, however, are fewer in number than Jews.

Q. What country has the most gipsies? R. C. L.

A. Roumania has the most. There are about 300,000 there. Bulgaria has 95,000 and Spain, 50,000.

Q. How many Hindu castes are there? L. K.

A. Hinduism is divided into four hereditary castes. They are Brahmans, or sacerdotal class; the Kshatriyas, or military class; the Vaisyas, mercantile or agricultural class; and the Sudras or servile class.

Q. How many nationalities are there in the United States and how many languages are spoken? M. A.

A. There are represented about 40 different nationalities in the United States. The number of languages and dialects spoken in America is 1,624.

Q. What is the origin of the Lithuanians? G. M.

A. The Lithuanians are of Indo-European origin. Little is known concerning their early history and nothing of the exact time of their appearance in the country they now inhabit. They are mentioned by Ptolemy.

Q. To what race do the Armenians belong? H. G. T.

A. The people belong to the Caucasian race. The present Armenian race is largely a mixture of Greek, Syrian and Persian peoples.

Q. What are mestizos? T. A.

A. Mestizos are half breeds; those of mixed blood, especially those descended from Indian and Spanish or Indian and Portuguese.

Q. What is the origin of the Albanians, and what language do they speak? I. S.

A. The Albanians are supposed to be descendants of the earliest Aryan immigrants, Macedonians, Eripots, and Illyrians. They divide

themselves into Tosks and Ghegs. The language and alphabet is a mixture from various sources. Latin characters are used by the Ghegs, Greek by the Tosks. The people are mostly illiterate and the spoken language is a mixture of Latin, Greek, and Slavic tongues.

Q. Who or what are the Fellahin of Egypt? H. M.

A. The Fellahs or Fellahin are the people of Egypt who live in villages and cultivate the soil, the name signifying tillers.

Q. Are the Belgians a Latin or Semitic people? G. A. M.

A. The Belgians are neither a Latin nor a Semitic people. They are the descendants of German and Celtic tribes with an admixture of Latin.

Q. Is there a law prohibiting the burial of Chinese in the United States? D. S.

A. There is no law of the United States prohibiting the burial of Chinese upon American soil. The Chinese, however, prefer to be buried in their native country and whenever possible make such arrangements.

Q. How do the Chinese classify the different sounds in nature? A. L. W.

A. They list eight: the sound of skin, stone, metal, baked earth, slik, wood, bamboo, and gourd.

Q. Of what is the carp the symbol in Japan? N. O. C.

A. The carp (which is associated with the annual observance of the boys' festival) is symbolic of vigor, persistence and strength.

Q. What is the name given the Indian pipe of peace? T. S.

A. It is known as a calumet. When the calumet is passed around, to accept it is to agree to the proposal terms; to refuse it, is to reject them. There is also a war calumet but this pipe is made differently. Tobacco is smoked in the pipe, and those accepting it, draw a few whiffs.

Q. When did the first Jews come to the United States? E. E.

A. There are indications of isolated arrivals in the colonies, but the first important settlement was made in New York by a party of Jews from Brazil in 1654.

Q. Are twins held in high regard among Indians? K. L.

A. Twins are usually regarded as uncanny and are rather feared, as possessing occult power. Among some Oregon and other coast tribes they were once regarded as abnormal and one or both were killed.

Q. What musical instruments do the Chinese play? C. D. C.

A. The Chinese use drums, cymbals, horns, lutes, castanets and flutes. There are three varieties of bells—po-chung, te-chung and pien-chung.

Q. Do the midgets that travel with shows belong to any one race? A. C. T.

A. The Lilliputians or midgets which are frequently shown at fairs or museums do not belong to any particular race. It is a term by which the pigmies of many races are known.

Q. Is there a Japanese symbol for fidelity? E. E. S.

A. In Japanese art, the bamboo is used as a symbol of constancy and fidelity.

Q. What does a totem pole signify? G. A.

A. The Indians of southeast Alaska have for generations used the totem pole as the symbol of everything important in their social order. There are three kinds of these poles. One is the personal pole, showing the genealogy of an individual; second, the pole which could be erected to commemorate some great event in an Indian's

life; the third, a kind of tombstone. The most powerful members of a tribe might have had the tallest poles. Some of the standards of the great Indians have stood sixty feet or more in height. There are totem poles which represent higher castes than others.

Q. Who are the Basques? M. S.

A. The origin of the Basques is unsettled. The name is applied to a peculiar race dwelling on the slopes of the Pyrenees. They occupy the provinces of Biscay, Alava, Guipuzcoa and Navarre, in Spain, and two French departments, Bayonne and Mauleon.

Q. Have the Chinese much literature? C. L. S.

A. Chinese literature is so extensive that the catalogue of books in four imperial libraries, which classifies and briefly describes contents, fills two hundred volumes.

Q. Are Englishmen taller than the Scotch and Irish? L. A. T.

A. A compilation of heights of men in the United Kingdom shows that the average height of Scotsmen is 5 feet 8¾ inches; of Irishmen, 5 feet 8 inches; of Englishmen, 5 feet 7¼ inches; and of Welshmen, 5 feet 6½ inches.

Q. On a railway journey, I saw a party of Japanese eating, from a tin box, thin strips of green substance. It was probably a confection. Can you tell me what it was? G. L. G.

A. The Japanese Embassy says that the thin strip of green substance referred to is not a confection, but a Japanese food made from seaweed and seasoned with shoyu. It is generally eaten in soup or with cooked rice at any hour of the day, usually at meal time. The delicately salty flavor derived from the seaweed, combined with the indescribable taste of the shoyu, whets the appetite much as caviar does. In this way it is regarded as an appetizer or a relish.

Q. Why is a part of France called Brittany? B. E. T.

A. Brittany is supposed to have received its name from those Britons who were expelled from England and took refuge there between the 5th and 7th centuries. Before that time the country was named Armorica.

Q. To whom may the term Aztecs be properly applied? B. J.

A. The name Aztecs is sometimes used of all the ancient semi-civilized tribes of Nahuatlan stock in central and southern Mexico. Properly speaking, the Aztecs are a group of seven tribes occupying the Valley of Mexico and its immediate vicinity. These peoples were possessed of a high degree of culture, but distinguished for their cruelty, particularly in connection with the religious rites. Some of their descendants still reside in the outlying villages in the neighborhood of the City of Mexico.

Q. Do Jews often become farmers? M. G.

A. There are in the United States 70,000 Jews on farms. They are especially numerous in New York, New Jersey, Connecticut, Massachusetts, Michigan, Ohio and California. There are 40,000 Jewish farmers in South America, most of them in Argentina.

Q. Where are tribes or races of pygmies to be found? T. B.

A. Three types of pygmies are now recognized: the African pygmies; the Island pygmies of the Philippines, Andaman and the Tapiros, probably of African origin; and the Asiatic pygmies of the southern portion of the Malay Peninsula, of Celebes and of some of the jungles of India.

Q. Is there a race known as the albino race? W. W. T.

A. The word albino is a term that was first applied by the Portuguese to the white negroes of West Africa. It is not the name

of a separate race, but applies to any individual in whom there is a congenital deficiency in the coloring pigment of the hair, skin, or iris of the eye. Professor Cushing found this peculiarity very common among the Zuni Indians of New Mexico.

Q. Has the wearing of feathers by Indians any special signifiance? C. D. D.

A. The Bureau of Indian Affairs says that the wearing of a feather means bravery and there are three grades of bravery which are denoted by the position of the feather.

Q. Do all Gypsies speak the same language? A. T. W.

A. There is a great difference in language and character in different Gypsy tribes. In America, the younger generations speak English and are rapidly forgetting their native tongues. The Gypsies of one nationality are not very friendly with Gypsies of another nationality and rarely does an Hungarian Gypsy marry a Rumanian Gypsy, or a member of either of these groups marry a Brazilian or Spanish Gypsy.

Q. What is the name of the shrine so often seen in Chinese and Japanese pictures, which looks like two upright posts with curved pieces across them? P. W. L.

A. In Chinese architecture, this is known as a pai-lon, and often stands alone as a memorial. In Japanese, the name is torii. These gateways of light skeleton-like post-and-lintel construction, designed with delicately curved lines, are usually found as an approach to sacred places.

Q. Are Jewish people apt to take narcotic drugs? T. A. C.

A. Charles B. Towns says that few Jews, except in the underworld, knowingly acquire the habit of taking narcotic drugs. He, himself, has met with only four cases of drug-taking among Hebrews.

Q. What is meant by the Latin races? F. R. N.

A. In a loose sense the term describes those races whose languages are derived principally from the Latin, and includes the Italians, French, Spanish, Portuguese, Grisons and Roumanians.

Q. Who were the Sabines? G. O.

A. The Sabines were ancient and important people who lived in the mountains northeast of Rome, from the Mons Fiscellus and borders of Picenum south to the Anio and Fidenae on the Tiber. They were of Umbro-Sabellian stock, allied to the Oscans, and the Samnites were their descendants. Reate (Rieti) was their chief town. The "rape of the Sabine women" in the legendary history of Rome is famous.

Q. How many Americans are there in China? A. T. C.

A. The latest estimates of the Chinese customs authorities place the number of Americans in China at 8,230, constituting the fourth largest of the foreign groups there.

Q. Who are Druses? G. T. T.

A. Druses are people of mixed origin who inhabit a district in Syria. Their religion is fundamentally Mohammedan, but their faith mingles the teachings of the Mosaic law, the Christian Gospels and the Sufi allegories with those of the Koran. They believe in the transmigration of souls with constant advancement and purification. Their teachings enjoin abstinence from wine and tobacco, from profanity and obscenity, and polygamy is unknown among them. There are a few hundred of this sect in the United States.

Q. Are there more Mongolians or Caucasians in the world? W. A.

A. A recent survey of the world's population estimates the total at 1,849,500,000. Caucasians are estimated at 725,000,000; Mongolians, 680,000,000; Negroes, 210,-

000,000; Semitic peoples, 100,000,000; Malays, 104,500,000; Red Indians, 30,000,000.

Q. From what stock did the Welsh people come? W. B. G.

A. The Welsh are a Celtic people. At the time of the coming of the Romans 55 B. C., the tribes of Wales representing a mixture of the primitive Iberians with the later invading Celts, were the Decongi, the Ordovinces, the Sliures, and the Demetae, all bearing the general name of Cymry. The Celtic inhabitants of Britain, fleeing before the Anglo-Saxon invasion, took refuge in the Welsh mountains, where, in time, they were merged with their native kinsmen.

Q. Did gypsies fight in the World War? C. L.

A. Many gypsies served in the armies of the various countries during the World War. The gypsies are citizens of the country in which they reside, and as such are liable to military service.

Q. Is Buddhism on the decline in Japan? C. N.

A. On the contrary, it has taken on a new stimulus within the past six or eight years. Hundreds of Buddhist Sunday Schools organized on the lines of Christian Sunday Schools are being established in Japan. Young Buddhist priests are addressing meetings in the parks and along the highways. An interesting fact to note is the adoption of Christian hymns. The name Jesus is changed to Buddha. Returning travellers tell of hearing little Japanese children singing "Buddha loves me, this I know".

Q. Does Japan raise enough rice to feed her people? N. W.

A. There is a yearly shortage of rice in Japan that has to be made up by importation. T. Shidachi says that only about 15 per cent of the area of Japan is under cultivation. This is an interesting fact in considering the modern problems of over population and food shortage in this island.

Q. What are Mongolian spots that are said to mark true descendants of that race? A. V.

A. Mongolian spots are temporary patches of pigmentation which appear upon children usually in the sacrolumbar region, especially among Mongolian peoples. They usually disappear in early childhood.

Q. Who and what are Melungeons? T. V. S.

A. They are a distinct race of people living in the mountains of Eastern Tennessee. They are about the color of mulattoes, but have straight hair. They are supposed to be descendants of some ancient Phoenicians, who removed from Carthage and settled in Morocco. They have no admixture of negro blood. From Morocco, a colony crossed the Atlantic and settled in South Carolina. From that locality, they moved to Hancock County, Tennessee. The Melungeons are to a considerable extent illiterate, and are for the most part engaged in farming.

Q. Does a Japanese woman walk with her husband or behind him? D. A. H.

A. A Japanese lady of other days was expected to walk ten paces behind her husband. The modern Japanese do not observe this custom strictly.

Q. I saw a reference to the great Mitsui family of Japan. Who are they? T. H. H.

A. They are owners of the mercantile house of that name established by Takatoshi (1633-1706) in Tokyo, and have been identified with almost every large concern of industrial and economic interest in Japan

Q. What are chop sticks called by the Japanese? L. P.

A. The Japanese word is hashi.

Q. What is the significance of the Jewish festival, the Feast of Weeks? H. C. N.

A. This commemorated the giving of the law of the Ten Commandments on Mt. Sinai to the Jewish people and also is observed as a harvest festival. Shabuoth, or the Feast of Weeks, comes seven weeks after the Passover; the one is at the beginning of the barley harvest, then through the seven weeks during which the various grains ripen and are harvested, ending with the wheat harvest which terminates the festival.

Q. Who are the Parsees? A. M.

A. They are descendants of Persian refugees who settled in India, mostly at Bombay during the 7th and 8th centuries. They are adherents of the teachings of Zoroaster, the fire worshipper. There are about 100,000 in the world today, the majority well-to-do or wealthy.

Q. When, where and how did the old Japanese adage about the Three Wise Monkeys originate? R. B. S.

A. "Little Apes of Nikko," sometimes known as the "Three Wise Monkeys," is the name of monkeys which appear in a mural decoration among ancient tombs at Nikko, Japan. The three monkeys are as follows: Mizaru, who sees no evil; Mikazaru, who hears no evil, and Mazaru, who speaks no evil. The legend connected with these monkeys is simply a moral idea to point out the wisdom of minding one's own affairs.

Q. How much negro blood is there in a quadroon? R. J.

A. A quadroon is usually a person who is one-quarter negro and three-quarters white; that is, one of whose grandparents was white and the other negro, and one of whose immediate parents was white and the other mulatt

Q. Did the Indians have any general name for themselves before the white men came? S. McD.

A. The Indian Office says that the Indians before the white men came had no general names. Sometimes they called themselves men in their own language. The tribes knew each other by the tribe names.

Q. Do the people of Sicily speak the same language as the people of Italy? J. A. D.

A. The Latin language of Sicily was displaced by a dialect in spite of the powerful efforts of the church. A number of Greek, Arabic, Spanish, French, and German words are employed in Sicilian. The Sicilian dialect varies less from the literary Italian than the other dialects of the kingdom.

Q. Was the Constitution of Japan patterned after that of any other country? M. G.

A. It was promulgated in 1899, and was formulated by Prince Ito who after investigating the constitutions of the various nations modeled the Constitution of Japan largely after the Prussian. It is divided into 76 articles, and provides for a law-making body of two chambers, the House of Peers, and the House of Representatives. The Emperor convokes, opens, and closes the diet, has all executive authority, and all laws are submitted to him for sanction.

Q. Are Romans and Italians synonymous? C. B. M.

A. Strictly speaking the Romans are the people of Rome while Italians are inhabitants of the Italian peninsula. The Romans of history were the people of Italy who were under the rule of Rome.

Q. Are the Fiji Islanders still cannibals? R. P.

A. Fijis are now Christians and are said to be cleanly and intelligent. The majority of them can

read and write, and many are skilled agriculturists and navigators.

Q. What do Georgians call themselves? C. W.

A. The Georgians, (also called Grusinians) call themselves Karthveli. The name Georgian is applied because the people so-called live in Georgia. This word is used in Europe except by the Russians who call this section of the world Grusia.

Q. To what tribe did Pocahontas belong? E. C.

A. Pocahontas belonged to the Wahun-Sona-Cook tribe of which her father was chief. She warned the English of the attacks of the Indians and furnished food to the famishing colonists, but it is the rescue story of Captain John Smith for which she is chiefly remembered.

Q. Why did the Scotch people adopt plaids for their dress? A. M.

A. Authorities who have studied the subject carefully are of the opinion that the use of the tartan or plaid in the Scottish Highlands seems to have been beyond the reach of history. The plaid is a development of the check which is a very ancient pattern and was especially popular in ancient Egypt as a motif of decoration.

Q. What per cent of Spanish blood has the average Mexican? V. W. K.

A. The Mexican News Bureau says: "The blood of the old Conquistadores of 300 to 400 years ago has been diluted to such an extent that in at least 75 per cent of the population it is scarcely noticeable. One-third would be a liberal estimate, about one-fourth being nearer the mark. Fully one-half are full-blooded Indian, one-fourth show slight traces of Spanish ancestry, and the other fourth more pronounced indications."

Q. When, how and where did the Jewish people begin to speak Yiddish instead of Hebrew? S. D.

A. The Jews who left Germany during the Middle Ages for the Slavic lands of Bohemia, Poland, Galicia and Lithuania, spoke Middle High German and wrote it quite correctly although they employed the Hebrew letters. Out of touch with Germany, the German sounds and forms underwent some change, while Hebrew, Aramic and Slavic words were added to the language. The resultant idiom, Yiddish, supplanted the Slavic of the primitive Jewish settlers, and gradually with Jewish migration was carried to all parts of the world.

Q. Who are the Osmanli Turks? R. W.

A. They are the ruling race in Turkey but constitute a minority of the population. They were the conquerors of Constantinople. Their name is derived from that of their leader Othman.

Q. How did the Helvetii dress? M. B.

A. We find no definite information as to their dress. Probably they wore trousers, tunics, and skins as many of the early inhabitants of Gaul and Germany did.

Q. Where is the official residence of the Mandarin in China? H. H. O.

A. The term Mandarin is applied in China by foreigners to government officials of every grade. There are nine ranks of Mandarins. Formerly the ruler or emperor of China occupied the Imperial Palace within the Forbidden City in Peking. At the present time China is a republic.

Q. What tribes of people live in northern Africa? D. B. A.

A. The principal tribes of northern Africa are the Arab-Berbers, the Ethiopians, the Fulah-Zandeh group, and the Negritans.

LVII

RADIO

Q. Why has the American Telephone and Telegraph Company stopped broadcasting programs? B. S. R.

A. With radio in its infancy this company took on broadcasting for experimental purposes. Having reached conclusions they find it no longer advisable to broadcast. The Radio Corporation of America, whose primary interest is in radio, has taken over the broadcasting, while it is understood that the American Telephone and Telegraph Company will devote its energies to telephone and telegraph communication, especially to the development of long distance telephony between business men in this country and Europe.

How sensitive is the microphone? R. K.

A. The microphone goes back to the first decade of the history of telephony. In the form we know it, it was invented by a man named Blake. The study of the microphone has been carried to such a point that Dr. Phillip Thomas, a research engineer of the Westinghouse Company has produced an instrument so sensitive that it is said to be able to "hear insects talk."

Q. What was the most expensive program ever broadcast and the probable cost? M. M.

A. The series of world famous artists broadcasting over a chain of fifteen stations, under the auspices of Mr. A. Atwater Kent, radio manufacturer of Philadelphia, is generally considered the most expensive. The cost is said to have been about $500,000 for the series, including fees to artists and stations.

Q. Where is Radio Central? R. L.

A. The Radio Corporation of America built Radio Central on the north shore of Long Island—a superpower radio system that sends messages to and receives them from other nations of the world. Its steel towers cover more than 10 square miles of land. It was opened on November 5, 1921, by President Harding.

Q. What is static? A. R. T.

A. Stripped of technicalities, static is a natural atmospheric interference observed in sending or receiving by radio. It is caused by stray natural electrical discharges. They are more prevalent by day than by night and are more troublesome in summer than in winter. Science is working toward a method of harnessing them.

Q. How many receiving sets are used on farms? P. B.

A. According to the Department of Agriculture there are over 550,000 receiving sets on farms to-day, and of this total a vast majority were installed primarily to receive weather and markets reports.

Q. On what basis is a broadcasting charge usually made? T. S.

A. On the estimated number of persons reached. Thus Station WEAF's charge in New York was estimated on an audience within a

100-mile radius. Statistics indicated about a million receiving sets in this area, and the possible total audience is estimated at 5.6 listeners to a receiving set. Half the audience may not be listening, and half the listening audience may be listening to another program.

Q. Are there many home-made radio sets now in use? F. W. W.

A. A recent survey showed 29.1 per cent of the sets in 2218 city homes were home-made, with the farm percentage showing 25 per cent home-made.

Q. If a message were broadcast at a certain point and received half way around the world—180 degrees —would the message come from both directions? J. W. L.

A. The signals would be received just once — simultaneously from all directions. This has actually been done.

Q. Does sound travel faster by radio than it does naturally? C. C. H.

A. Sound travels about 1100 feet per second. When sent by wireless, it takes the speed of electric waves, 186,000 miles per second.

Q. How many words has the invention of radio added to the English language? A. H. D.

A. David Saranoff says that it has added about 5000 new words. The War added 6000. More than 200 of the radio additions to Americanese have the prefix radio. The others run all the way from antodyne to zymodyne.

Q. Was MacMillan's radio successful during his trip into the Arctic during 1923? S. C.

A. The MacMillan Expedition to the polar regions had radio for its only means of communication. Using low power and short wavelengths, the Bowdoin communicated with several stations in the United States while the ship was frozen in thousands of miles away. Broadcasting concerts from the United States stations were heard during the long dark nights of the Arctic Zone. The call letters were WNP, the slogan Wireless North Pole, and the power was about 500 watts.

Q. Do radio stations receive many letters from radio fans? F. E.

A. In 1924 one large station in New York City received an average of 17,000 letters a month. In January, 1925, the number jumped to 54,000.

Q. Is it true that the microphone hears things not audible to the human ear? J. S.

A. The microphone may not be so much more sensitive than the human ear, but like the camera, it seems to call attention to little things which ordinarily escape our physical senses.

Q. Has any college in the United States graduated students taking courses by radio? M. G.

A. Kansas claims the first radio commencement in history. The Kansas Agricultural College sent invitations in 1925 to 1800 "aggies of the air," — students enrolled in courses conducted by radio—to attend this notable event in person.

Q. What is Graham McNamee paid for announcing the world series? R. M. S.

A. The American Telephone and Telegraph Company says that Mr. McNamee receives no additional salary for announcing special events of this kind, as he is on its regular payroll and carries out whatever assignments are given to him.

Q. Does the Department of Commerce regulate the broadcasting of some copyrighted musical numbers? F. S.

A. The broadcasting stations are not refused the broadcasting

of certain musical numbers by the Department of Commerce. This is controlled by the Society of Composers, Authors and Publishers which is located in New York City. This society has refused the use of any copyrighted music to the broadcasting stations except to those that they give special privilege. Station WEAF of New York City pays a certain fee each year to this society for privileges.

Q. Is there a wireless beacon in Great Britain? G. E. R.

A. The first experimental wireless beacon in Great Britain has lately been constructed at Nash Point on the Welsh Coast, between Swansea and Cardiff. The installation transmits on a wave-length of 1,000 metres.

Q. Has President Coolidge made any statement on the subject of radio? N. J.

A. In President Coolidge's speech to the delegates to the radio conference, October 8, 1924, he said: "In its broad aspects radio is a new agency brought by science to our people which may, if properly safeguarded, become one of the greatest of our blessings. It should render possible a more complete understanding of our national problems. It should bring to the fireside large contributions toward entertainment and education. With all its great possibilities, it is accompanied by a most intricate technology and a most intricate relationship to the Government."

Q. What is the largest radio manufacturing plant in the world and where is it located? B. D.

A. The Atwater Kent Co., covering 15 1-2 acres in Germantown, a suburb of Philadelphia, is said to be the largest radio manufacturing plant in the world. It is only one story high with a so-called saw-tooth glass roof which floods the factory with light.

Q. How many tubes are there in the most popular sets? M. T. L.

A. A survey covering 2659 homes recently showed 40.5 per cent of the sets had 5 tubes; 21.8 three tubes; 13.5 four tubes; 7.6 per cent, six tubes.

Q. Are radio sets thoroughly tested in the making? O. C. T.

A. Precision and accuracy of manufacture are most essential to the production of sets of range and volume. One for instance, receives 159 tests before it is approved for shipment, including the tests of the many parts and the assembled units.

Q. What has been the growth of radio broadcasting? G. K. B.

A. Less than six years ago there was only one broadcasting station in the United States organized for the service of public programs, while today there are more than 600. In 1920 the total expenditure in the industry was not much more than $1,000,000. For 1925 the total was approximately $350,000,000.

Q. Who was the first to conceive of the transmission of pictures by electricity? D. H.

A. Although this remarkable discovery is comparatively new to the public, the initial step in the transmission of pictures by electricity was made in 1842 by Alexander Bain, an English physicist. His plan was so basically correct that present day experimentation is following his lead.

Q. Did wireless aid in the Titanic disaster? F. S.

A. On April 15, 1912 when the Titanic struck an iceberg and sank, the lives of more than 700 of her passengers were saved, owing to the prompt response to the wireless call for assistance.

Q. Has a current of 310 amperes ever been obtained? T. S.

A. The General Electric Company developed a tube capable of delivering 20 kilowatts of high-frequency energy to an aerial.

Using six of these tubes in parallel with 15,000 volts on the anode, a current of 310 amperes in an Alexanderson multiple tuned aerial was obtained. A tube of the magnetron type was developed by the same company, capable of giving 1,000 kilowatts at 20,000 cycles with an efficiency of 70 per cent.

Q. Was any station in communication with the ship "Arctic"? A. S.

A. During the period from August 5 to September 24, 1924, the Westinghouse station (KDKA) maintained communication with the ship "Arctic" while on its expedition to the Arctic regions. Upon the ship's return it was reported that messages sent on short waves by the East Pittsburgh station were received at Cape Sabine within 11 degrees of the North Pole. This is the farthest north radio messages have been received.

Q. Please throw some light on this. I have a radio and when my neighbor two miles distant talks to anyone over the telephone we can hear him over our radio. R. A. D.

A. The Loomis Radio College says that telephone wires appear to be acting as aerials in many locations. Frequently when we take up our telephone to communicate with some one over the line, we can hear the code being transmitted from Arlington, and sometimes broadcast music. Evidently the length and position of the wire is such that it responds to the audio frequency of the waves. In your case, the process seems to be reversed. Radio is all so new that there is room for plenty of research to be done, and no doubt several important discoveries concerning such things will be made during the next few years.

Q. What comprises a simple receiving radio set? W. G.

A. The simplest receiving station may be constructed with a coupler and a detector, crystal or some other mineral detector, and one 80 ohm phone and one strand of aerial wire 20 feet long.

Q. Do radio stations NAA and NSS transmit eastern standard time? Is it based on solar or sidereal time? A. H. C.

A. The Naval Observatory says Arlington and Annapolis radio stations transmit time signals at Eastern Standard Noon. The transmitting clock keeps mean solar time. However, it is set daily from comparison with the standard sidereal clock whose error is determined frequently by star observations.

Q. How are radio wave lengths measured? T. B.

A. Wave lengths of radio communication are measured in meters, meaning a certain number of meters from trough to trough of the waves sent out from the transmitter. One meter equals 39.37 inches.

Q. What is a photo-radiogram? I. H.

A. Photo-radio is the process of sending a single picture from one point to another by electricity in three to twenty minutes. Capt. R. H. Ranger effected the first completely automatic radio transmission of pictures across the ocean in 1924 which was called a photo-radiogram.

Q. How do ships obtain bearings from radio stations? W. M. H.

A. The Department of Commerce says that this may be done in two ways. Radio compass stations are maintained by the Navy Department at various points along the coast, and ships in the locality of these stations signal to them asking for bearings. On the other hand there may be directional receiving apparatus aboard ship and this apparatus can get bearings from any coast station of which it knows the call letters.

Q. Does the height of the aerial make a difference in receiving music? T. B.

A. The height of the aerial affects the wave length and the distance from which the receiver can pick up signals. All of the transoceanic antennas are very high. Referring to music from a nearby broadcasting station, the heighth is not so important, but it does count if you wish to bring in distance. Get it as high as you can.

Q. When was radio first used on ships? C. E. A.

A. The Radio Inspector says that radio was first used on shipboard July 20 and 22, 1899, on the Flying Huntress, to report the Kingstown Regatta for a Dublin newspaper. In September and October of the same year races between Chaumont and Columbia were reported from an ocean going vessel for the New York Herald. In 1900 wireless apparatus was placed on the Kaiser Wilhelm der Grosse.

Q. Would a tin roof affect a wireless receiving set? A. C. M.

A. It would and should therefore be well insulated.

Q. Are there any regulations to be observed by radio amateurs who experiment with spark coil transmission? H. H. P.

A. The Department of Commerce says that all radio transmission stations including amateurs must and can only be lawfully operated by virtue of a license issued by the Department of Commerce.

Q. What height, length, and direction, makes the most satisfactory radio aerial? D. G.

A. The most satisfactory aerial for bringing in broadcast programs consists of two or three parallel wires, two feet apart, and from 75 to 100 feet long, placed as high as possible and as far as possible from all trees, smoke stacks, etc. The aerial may be placed in any direction.

Q. Can radio waves travel underground? D. E. W.

A. The Bureau of Mines is experimenting with radio underground, and it has been able to send waves through 125 feet of earth and rock. Further development will be necessary before general use of radio underground is possible.

Q. How does the new radio tower in Berlin compare in height with the Eiffel Tower? M. C.

A. It is 928 feet high—not quite so tall as the Paris tower. With the 58 foot antenna mast, it overtops the Eiffel Tower by 2 feet.

Q. Who invented the radiophone? T. A. W.

A. The National Radio Institute says that Dr. Lee DeForest in 1912 invented the vacuum tube and various other scientists have used this invention as a foundation and have made improvements so that no one person is credited with the invention of the radiophone.

Q. How long has it been possible to send wireless messages overseas? R. S.

A. Marconi first succeeded in telegraphing certain signals across the Atlantic in 1901 and the first complete message was sent in 1903. Transoceanic telephony was first accomplished in 1915, when speech was transmitted from Washington to Paris and to Honolulu, the latter distance being almost 5,000 miles.

Q. Is it true that an A battery of low amperage will give clearer and stronger reception than a fully charged A battery? W. O. J.

A. The Loomis Radio College says that its many years of experience in radio reception convinces it positively that signals will be received over a greater distance and

with better tonal quality when the filament lighting storage battery is fully charged. Sometimes in tuning, it is found that the battery power needs to be decreased somewhat by means of the rheostats which control the filament lighting. However, the effect is very different from operating on a partly charged battery.

Q. What code is used for wireless—is it the same as telegraph code? F. E. W.

A. The wireless code is known as the Continental Code and is used for wireless work alone and is operated by means of a buzzer, whereas the regular telegraph code is known as the Morse and is used extensively for land work. It is operated by means of a click. With the exception of eight letters these codes are practically the same.

Q. Is it true that wireless messages can be received from a greater distance at night than in the day time? N. R.

A. A wireless message can be received from a far greater distance at night, especially if the message is sent over water. The air at night is damper and is, therefore, a better conductor.

Q. What is meant by the Arlington time signal as broadcast? A. B.

A. The Arlington ten o'clock signal is sent out as a check for mariners at sea.

Q. Why are more radio programs broadcast at night? Is it because radio works better then? C. F. L.

A. Fine programs are given in daytime, but the most important musical programs are broadcast at night because at this time it is possible for the greatest number of people to enjoy them. Also, the electric waves travel farther in the dark than in the daytime.

Q. When was S. O. S. adopted as a distress signal and what was the signal before that? F. G.

A. C. D. Q. was used as a wireless distress signal before S. O. S. Since 1911, S. O. S. has been used universally as the wireless distress signal by wireless operators.

Q. Do radio stations select their own letters? L. O.

A. They are assigned by the Radio Division of the Department of Commerce.

Q. Is the increased use of radio the reason for so much cloudy and rainy weather? D. H. E.

A. The Bureau of Standards says that the wireless broadcasting waves have no influence on the weather, nor on plant or animal life.

Q. When was broadcasting begun? L. W.

A. The Department of Commerce says that broadcasting was used experimentally during the war; however, the station broadcasting with which we are familiar at the present time, was first licensed in September 1921.

Q. What is a vacuum tube used for in a radio set? S. E. W.

A. A vacuum tube is a glass tube exhausted of air and having a filament grid and plate inside for rectifying the incoming waves into direct current for head phones.

Q. Why is the new wireless called radiograph? J. V. N.

A. The word radiograph was coined because radio is an abbreviation for radiation and the radiograph is the instrument for radiating electric energy through air.

Q. Who is the foremost authority on radio? A. B.

A. The Department of Commerce says there are a great many people considered experts in radio. Some specialize in one phase of radio, and others in another phase. The following is a partial list of

experts: Marconi, invention and development; Dr. Goldsmith, radio telephone; C. Francis Jenkins, Kolster radio compass for ship navigation; Stone, federal arc; Major Armstrong, regenerative receiving sets; Dr. Alexander, high frequency alternator.

Q. Who holds the first radio license issued in the United States and when was it issued? G. L. H.

A. To George Hill Lewis of Cincinnati was issued the first radio license in 1911.

Q. Will you be kind enough to state whether radio waves will go through silver? E. V. W.

A. Silver is the best conductor that can be obtained.

Q. When did the press use transcontinental communication? D. H.

A. On January 20, 1904, the first press message was transmitted across the Atlantic.

Q. Is there any government monthly publication that gives information on various stations and radio in general? E. C.

A. There is such a publication called the Radio Service Bulletin issued by the Department of Commerce.

Q. How many wave lengths can be used in the United States? D. W. T.

A. The Department of Commerce says that there are 89 different wave lengths available if the stations are kept 10 kilocycles apart and the assignment of wave length staggered geographically so as to prevent overlap in the area of effective reception.

Q. How long is a radio wave length? L. A. G.

A. The wave length is about 3.28 feet or one meter.

Q. How are radios grounded that are on busses and trains? M. J. G.

A. They are connected with the axle of the wheel. The wheel is in constant contact with the ground.

Q. Should iron supports be used for radio aerials? H. J. A.

A. While it is generally believed that iron in the vicinity of an aerial absorbs some of the energy, iron supports are frequently employed for this purpose on account of their mechanical advantages. Observe the latticed steel towers used by all the large broadcasting stations, where receivers are also installed as required by law. The aerial should be well insulated from the iron pole and swung a few feet away from it by a stout rope. The other aerials should run as nearly as possible at right angles to each other. If they are one above the other in the same direction they will rob each other quite noticeably.

Q. How many words were sent by cable and radio by the War Department during the World War? L. E. I.

A. Over thirty-eight million words were sent to and from the War Department at a cost of $1,210,900.

Q. How are radio photographs made and developed? A. B. F.

A. Mr. C. Francis Jenkins, (radio inventor) gives the following explanation: "At the London end radio signals are sent by means of a photo electric cell which converts the light valves of the photograph into electric current. This modulated electric current is then put on a radio carrier wave which is picked up in the United States. The incoming radio signals operate an ink pen which puts dots of different size on a white piece of paper. The grouping of these dots, and the size of them, makes up the picture somewhat similar to the half tone dots of the illustrations in the newspaper, which dots can easily be seen under a reading glass.

Q. How long have crystal detectors been known? W. H. K.

A. In 1906 Dunwoody discovered the rectifying properties of carborundum crystals and Pickard discovered similar properties of silicon crystals. These discoveries formed the basis of the widely used crystal detectors.

Q. When was wireless first used by railroads? A. W. H.

A. On November 24, 1913 the first practical trials with wireless apparatus on trains were made on a train belonging to the Delaware, Lackawanna & Western Railroad.

Q. How long has the single dial been in use? E. S. L.

A. The original idea of the single dial for the operation of all the tuning apparatus was worked out by Fessenden and was perfected by John V. L. Hogan. It was intended for ships at sea and did not become a part of broadcasting until 1923.

Q. Are amplifiers such as we have in use in this country in use in German Catholic churches? P. B.

A. The first amplifier in a German Catholic church was recently installed in St. Severin's, one of the ancient churches of Cologne, after great opposition to the innovation.

Q. Why won't radio work as well in daytime as at night? R. M. W.

A. Due to more or less undiscovered physical laws, radio transmission and reception have a marked difference in behavior during the daytime and the night. The fact that the recent solar eclipse gave reception conditions similar to those experienced in the night, seems to indicate that it is actually the rays of the sun which are responsible for the decreased efficiency of the daytime signals. A radio receiving set is an insignificant affair, compared to the immensity of the laws of nature determining reception conditions.

Q. How much water is it necessary to have for grounding a wireless set? G. P. O.

A. The Radio Inspector says that it is not necessary to have any water for grounding wireless, provided the wires are grounded deeply enough in the earth to insure them reaching damp soil.

Q. Where was the first paid wireless message sent from? R. S.

A. The first paid radiogram was transmitted from the Needles Station, Isle of Wight.

Q. What is the meaning of the word kilocycle? A. T.

A. It is a measure that is taking the place of wave length in radio. While wave lengths were measured in meters, kilocycle is measured by frequency. The rule for changing wave length into kilocycles is: divide 300,000 by the wave length in meters. The answer is in kilocycles.

Q. When living in the country with no underground water pipes, how can one make a good ground connection for a radio? H. S.

A. Such a connection can be made by driving an iron pipe into the ground about six feet.

Q. How fast must a person receive and send to get a radio operator's license? E. G.

A. To pass the Government examinations for a first class commercial radio operator's license it is necessary to qualify in both transmitting and receiving the International Morse Code at a speed of 20 words per minute. An amateur is required to send at a speed of 12 words per minute.

Q. Can a submarine send a radio message when the boat is submerged? H. A. B.

A. There is a limit to the depth at which messages can be sent satisfactorily. This depth is about 30 or 40 feet.

LVIII

RELIGION

Q. What religion has the most followers? G. P. M.

A. The religion which has the most followers is Confucianism or Taoism. The members number 310,925,000.

Q. Who printed the first Bible? A. A.

A. The first printed Bible was the Gutenberg Bible, the earliest book known that was printed from movable metal type. It was printed in Latin at Minz, 1452-1456 A. D. The material comprising it was derived from earlier existing manuscript.

Q. What part of the population of the United States are church members? J. N. H.

A. According to the Catholic Year Book and the Federated Council of Churches, the number of people belonging to all religions in the United States in 1924 was 38.8 per cent of the total population. This includes only active members.

Q. In how many tongues is the Bible translated? P. M. O.

A. The Bible has been translated into 835 languages according to a chronological list of translation published by translator Kilgour, of the British and Foreign Bible Society. Dr. Kilgour's list shows that when the society was formed in 1804 the Scriptures were available in only 72 languages.

Q. Who owns the Garden of Gethsemane? E. C. R.

A. The Garden of Gethsemane belongs to the Franciscan Monks.

Q. What were the principal religious denominations represented in America about the time of the Revolution? H. H.

A. They were Episcopal, Roman Catholic, Presbyterian, Methodist, Baptist, Friends, Congregational, Lutheran and Dutch Reformed.

Q. Why are Eucharistic Congresses held? F. G.

A. Eucharistic Congresses are gatherings of ecclesiastics and laymen of the Roman Catholic Church for the purpose of celebrating and glorifying the Holy Eucharist and of seeking the best means of spreading its knowledge and love throughout the world.

Q. What is the term for the practice some people have when puzzled of opening the Bible at random, reading a verse, and allowing it to determine the person's course of action? J. C. B.

A. Divination by means of the Bible is called bibliomancy. Use of poetic verses, fixed on by chance was common in Rome. Vergil was often used for this purpose. As the Bible spread through Europe, devout people turned to it for direction.

Q. Is there a list of Psalms to be read when in doubt, in danger, etc.? M. F.

A. The following Psalms are recommended for different occasions; Doubt, 23rd Psalm; Grief, 88th; Danger, 71st, 46th; Loneliness, 42nd; Impatience, 37th; Penitence, 38th; Discouragement, 34th.

Q. What is the largest number

of converts received in one day by Billy Sunday? W. A. S.

A. Mr. Sunday says that he has no official record of the largest number of converts received in a single day. He states that in New York City, 7,437 came forward on one occasion, and 3,729 in Baltimore, but that he has no actual knowledge of these being the largest numbers.

Q. Why do Protestants say "I believe in the Holy Catholic Church"? C. B.

A. The Apostles Creed is a formula which has been used as a declaration of faith at times by practically all Christian churches. One of the articles enumerated is, "I believe in the Holy Catholic Church." In this sense the word Catholic is used in its original meaning which was the Church Universal and referred to the entire body of Christians.

Q. Which has the larger sale—the Bible or novels in general? R. E. L. ....

A. More Bibles are sold annually than novels.

Q. Did Solomon write Ecclesiastes? M. M. O.

A. Scholars agree that Solomon did not write Ecclesiastes. The style of the language used is of a later time, and probably the Book is a compilation of many writers.

Q. How many churches are there in the United States and what is their property worth? C. C. V.

A. At last enumeration there were 237,565 churches with communicants numbering 46,142,210, and wtih ministers and priests numbering 213,329. The estimated value of religious property in the United States is $1,760,217,061.

Q. Has the Lord's Prayer been engraved upon the head of a pin? R. C.

A. The Lord's Prayer, 69 words, 397 letters, counting punctuation marks, was engraved in 12 lines on the head of an ordinary pin by Charles Howard Baker, of Spokane, Washington.

Q. Are there any of the original manuscripts of the New Testament in existence? A. F.

A. Not one still exists.

Q. Have many churches been built to include office buildings? J. H. H.

A. Many modern churches have been built on this plan. In 1925 Los Angeles and Baltimore had four each. New York and Detroit come next with three in each city, Chicago has two. Kansas City, Missouri, Boston, Cincinnati, Syracuse and Rochester, New York, Des Moines, and Paterson, New Jersey, each has a building of this type.

Q. What was the total attendance at the first Moody and Sankey meeting in Philadelphia? F. O.

A. It was estimated that in nine weeks, about 900,000 people attended.

Q. What two chapters in the Bible are exactly alike? J. A. H.

A. The two chapters in the Bible, Authorized Version, which are alike are the 19th Chapter of 2nd Kings, and the 37th Chapter of Isaiah.

Q. What religious denomination ranks first, second, and third as to members in the United States? O. H. C.

A. The largest Christian single denomination in the United States is the Roman Catholic. The second largest is the Methodist, and the third Baptist.

Q. Was Saint Patrick the apostle to the Highlanders as well as to the Irish? W. P. C.

A. Saint Columba, a Celtic missionary, founder of the monastery St. Iona on the island of that name,

was known as the Apostle to the Highlanders.

Q. What was the use of the mercy seat, described as a part of the Ark of the Covenant? P. E. G.

A. The mercy seat was a golden plate on top of the Ark, on which was sprinkled the blood of sacrificial animals.

Q. What is the state religion of France? E. G.

A. France has no state religion. The church and state are entirely separate.

Q. Under which Pharaoh did the exodus of the Israelites from Egypt take place?

A. It is still a disputed question. The traditional and most general view is that Rameses II was the Pharaoh of Oppression and Menphthal of the Exodus. The mummy of the former has been discovered.

Q. What is the Biblia Pauperum? I. A. R.

A. This Bible of the Poor was a medieval picture book representing the chief events of man's salvation through Christ. It was meant for those who were unable to read.

Q. What was the Great Awakening? I. R. W.

A. The Great Awakening was the popular name for a remarkable revival that swept over New England during the period 1740-45 under the leadership of Jonathan Edwards and George Whitefield. Almost 150 towns were stirred to a veritable religious frenzy and in the end it was considered to have done more harm than good, having resulted in dissensions and divisions in congregations.

Q. Why are there no proper names in the Bible beginning with W? A. L. C.

A. Dr. Shapiro in the Library of Congress says that there is no letter in the Hebrew alphabet corresponding in sound with the letter W which accounts for the fact that no proper names in the Bible are translated as commencing with this letter.

Q. What is the chief prayer of the Mohammedans? G. P.

A. The Namaz, which is recited five times daily, is their chief prayer.

Q. Who were the Three Wise Men and from what country did they come? E. F. H.

A. The three wise men who visited the infant Jesus at Nazareth, according to tradition, were three kings of provinces in Persia. Their names were Kaspar, Melchior, and Balthasar.

Q. Why did the Methodists take this name? L. J.

A. The term Methodism is derived from a Greek word meaning rule. The name Methodist was applied in derision to those Oxford students who followed the teachings and practices of John and Charles Wesley. The name was later adopted by John Wesley himself.

Q. Is there more than one religion among the Chinese? W. L. F.

A. There are five principal religions in China, with many followers — Confucian, Buddist, Taoist, Mohammedan and Christian.

Q. What kind of music is rendered in a mosque? Do the people ever take part? J. F.

A. No music is rendered during the service. The chaplain reads the service and the members of the congregation participate.

Q. Of the entire population in the United States, what percentage is Roman Catholic? T. G.

A. According to the 1925 Official Catholic Directory the Roman Catholic population in this country is 18,654,028, forming about 17 per cent of the entire population.

Q. What are the abecedarian psalms? L. O.

A. Such psalms as the 119th in which the verses of successive portions are arranged in alphabetical order.

Q. When was immersion first used as a symbol of baptism? M. H. C.

A. The records of the earliest Christian writers seem to agree that immersion was the mode of baptism practiced not only by the entire body of Christians, but was used previous to that time by the Jews who immersed proselytes to their religious faith.

Q. Is any method or plan followed in the International Sunday School lessons? G. B. H.

A. The lessons are arranged so that the Bible will be reviewed each six years. This period constitutes the time that the average child attends Sunday School. One temperance lesson is included quarterly.

Q. Which minaret in Cairo is the tallest? T. C. M.

A. The one remaining minaret belonging to the Mosque of Sultan Hassan is the tallest in the Egyptian capital. It is 280 feet high.

Q. How did Samson burn the wheat fields of the Philistines? G. B. L.

A. According to the Bible, Samson caught 300 foxes, turned them tail to tail, and fastened a fire brand to each pair. The brands were lighted and the foxes turned into the standing grain of the Philistines. Both shocks and standing grain were consumed and also the olive yards.

Q. Does it say in the Bible that Christ was born in a manger? M. G.

A. In the second chapter of Luke, verses 7 and 12, King James Version, are found two references to the fact that the infant Jesus was laid in the manger by his mother Mary. This is sometimes construed as meaning that the birth of Christ actually occurred in the manger.

Q. Where is the largest monastery in the world? G. A. T.

A. The Buddhist religion supports the largest monastery in the world. This monastery of Dubung (variously spelled) at Lhasa, Tibet, houses 8,000 monks and students.

Q. When was sprinkling first used as a mode of baptism? J. A. B.

A. The rite of baptism by sprinkling or pouring is supposed to have originated either in the second or the third century and is alluded to in the writings of Cyprian, who gave his opinion that in the case of those who were sick or unable to endure the rite of immersion, it was a lawful baptism.

Q. What is the exact place in the Bible where the word girl appears? L. A. P.

A. The word girl occurs in the third verse of the third chapter of Joel, while the plural form girls appears in the fifth verse of the eighth chapter of Zechariah.

Q. What will be the seating capacity for the Cathedral of St. John the Divine? J. H. M.

A. The prevailing style of the Cathedral of St. John the Divine is French-Gothic. One of the characteristic features is that there will be no pews but movable benches will be used instead as in the old cathedrals. There will be a seating capacity of 7,000 with standing accommodations for several more thousands.

Q. Do churches other than the Roman Catholic use incense? T. J. L.

A. Many other churches do. Eastern Catholics and some Protestants, particularly some branches of the Angelican Church use it. Other religions, notably the

Buddhists and Hindus, employ it in their rites.

Q. When were seats first provided in churches? S. M. C.

A. Up until the early part of the fourteenth century worshippers in churches were accustomed to stand or sit on the floor. Then they were provided with short three-legged stools and from 1450 onward mention is found in church records of pews or pues.

Q. For whom was the Sistine Chapel named? J. E.

A. The word Sistine is derived from the Italian Sitino and the Latin Sextus. The chapel was so-named for its founder, Pope Sextus IV (1471-1484).

Q. What denomination is the Little Church Around the Corner? T. W. D.

A. This is an Episcopal Church, the real name of which is the Church of the Transfiguration.

Q. Is the Latin cross as used by the Roman Catholic and Protestant churches the same as the Greek cross? M. E. G.

A. There is a slight difference between the Latin and Greek crosses. The lower branch of the Latin cross is considerably longer than the other three, while in the Greek cross all the branches are of equal length. St. Andrew's cross consists of two shafts of equal length, bisecting each other diagonally in the form of the letter X.

Q. Why do we speak of 40 days of Lent when it really lasts over six weeks? V. I. P .

A. The 40 days refers to the fast days. Sundays are feast days. Taking out the six Sundays in Lent, there are 40 days of Lenten observance.

Q. Why were Catholic churches decorated in black and yellow following the death of the Pope? R. G.

A. Black and yellow are the Papal colors.

Q. What is the King James Version? M. C.

A. This term is applied to the Bible which was completed and printed in 1611. The rules adopted provided that the new translation should be based on the Bishop's Bible and that it should contain no marginal notes except for explanation of Hebrew and Greek words. The movement was supported by James I, King of England.

Q. Has the famous rose window of the Cathedral of Rheims been restored? S. E. G.

A. M. Henri Deneux, architect in charge of the work, recently reported that all the windows have had their mullions and their rose work restored, the bindings of the glass have been repaired or remade and the glass itself, for the most part modern, will soon be completely inserted.

Q. What is the significance of the red tile or plate in the floor in front of the altar of the Cathedral of St. John the Divine? N. J. C.

A. This 14-inch square piece of tile was taken from the ancient church of St. John the Divine which was built by Justinian, Emperor of Rome, at Ephesus 540 A. D., over the supposed site of the grave of St. John.

Q. In the Book of Acts, the chief captain says "With a great sum obtained I this freedom." Did Rome sell citizenship? B. J.

A. Under the first Roman emperors freedom of Roman citizenship with all its privileges was purchased by aliens or former servants or slaves who possessed the means, at great cost. During later rule it was sold for a trifle. Roman citizenship carried with it many privileges.

Q. Kindly name the Archangels. H. T. R.

A. According to Kabalists, the Archangels are, Michael, Gabriel, Haniel, Raphael, Camael, Zadkiel, and Zaphkiel. They represent, Might, Grace, Splendor, Saving Power, Zeal, Justice, and Mystery of God.

Q. How old a book is the Gospel according to Saint Mark? D. A. C.

A. E. I. Bosworth says it is now generally thought to have been put into its present form some time between 65 and 70 A. D.

Q. When was the Bible translated into an Indian language? N. E.

A. In 1663 John Elliot, The Apostle to the North American Indians, translated the Bible into the dialect of the Naticks, a Massachusetts tribe of the Algonquins. A copy of this edition with the Epistle Dedicatory was sold in 1882 for $2,900.

Q. Where in the Bible does it speak of the seven senses? S. S. B.

A. This is found in Ecclesiasticus, an apochryphal book not included in the Protestant Bible. The verse reads as follows: "They received of the Lord the use of five powers. But as a sixth He also accorded them the gift of understanding, and as a seventh, the Word, the interpreter of His powers."

Q. What, where and why were the cities of refuge? R. L. L.

A. Moses at the command of God set apart three cities on the east of Jordon, and Joshua added three on the west shore, whither any person who had inadvertently committed a murder, might flee for refuge. These cities of refuge were Bezer, Ramoth and Golan on the east; Hebron, Schechem and Kedesh on the west shore.

Q. In what part of Egypt did Pharaoh's daughter find Moses? W. F. O.

A. Opposite Cairo lies the Island of Roda where according to Arab tradition Pharaoh's daughter found Moses in the bulrushes. At the southern extremity of this island is the Nilometer, by which the rise of the Nile has been measured by the Cairenes for 1,000 years. It is a square well with an octagonal pillar marked in cubits in the center.

Q. What is the present value of the Trinity Church property? C. C. E.

A. The income of Trinity Protestant Episcopal Church, in New York City, was $1,248,681 in 1923, according to its Year Book, and the church's total assets were $13,329,053. Most of the income is derived from rents.

Q. How many people in India have been converted to Christianity? J. A. E.

A. The Biblical Review says that of the 319,000,000 inhabitants of India only 4,000,000 are numbered in the Christian church.

Q. How old was Jesus when he began to teach? H. S. N.

A. In the Gospel according to Luke, is the statement that when Jesus began his ministry he was "about 30 years of age." This is not definite and may have been so mentioned because the Jews had a theory that a teacher should be at least 40 years old.

Q. How old is the Bahai religion? N. L.

A. Bahaism is a religious movement that was started by Mierza Ali Mahomet in Persia about the middle of the 19th century.

Q. Why is the Book of Revelation called the Apocalypse? M. V. B.

A. The word revelation is derived from revelatio, the Latin equivalent for apocalypsis, both words meaning uncovering or unveiling.

Q. Where did the Indian get his idea of a happy hunting ground and a Great Spirit who rules the world? C. H. E.

A. Records do not exist that tell when the Indians conceived this idea of religion. They had their religion before the white men discovered this hemisphere. It deals with an Almighty, a hereafter, and has many similarities to the old Jewish religion. They have a legend of the deluge. Some authors say that the Indians are connected with the Ten Lost Tribes of Israel.

Q. How many churches have New York City, Philadelphia and Chicago? E. N.

A. At the time of the last religious census, New York City had 1,536 churches, Philadelphia 925, and Chicago 899.

Q. What are the Penitential Psalms? G. D.

A. The Penitential Psalms are the seven psalms in which repentence is expressed and pardon asked of God. In the Authorized Version they are: 6, 32, 38, 51, 102, 130, and 143. It is said that Saint Augustine when dying caused these psalms to be written out on the wall facing his bed. The most deeply penitential is the 51st Psalm, known also as the Miserere.

Q. How many Mohammedans are there in North America? M. C.

A. It is estimated that there are about 20,000 on this continent.

Q. How many Cardinals can there be in the Sacred College? For how long are they elected? P. N. H.

A. According to its present constitution the Sacred College consists of 70 members, although the places are rarely, if ever, all filled. The Cardinals are appointed by the Pope. The duty of the college consists of assisting the Pope at the chief liturgical services and in counsel, and aiding him in the government of the church. The entire college meets together to elect the new Pope. A Cardinal holds office for life.

Q. How many Moslems are here in India? I. N. D.

A. It is estmated that in India there are 70,000,000 Moslems.

Q. Who was the first monk to become a Pope? S. C.

A. Gregory I, a follower of Benedict, made Pope in 590, was the first monk to hold this high position.

Q. Has the Gospel been preached to all the nations of the earth? D. B. D.

A. It has not reached all parts of the earth. Large portions of Asia and Africa have not heard the Gospel.

Q. What are the ashes that are used on Ash Wednesday? B. N. G.

A. The ashes employed in the blessing on Ash Wednesday are those made by burning the palms used in the services on Palm Sunday of the preceding year.

Q. What was the inter-church movement? H. R.

A. The inter-church movement was an effort made in 1917 to coordinate all Christianization of the entire world. It was projected to raise $300,000,000 for the work of investigating conditions. It did not prove a success and passed into a receiver's hands.

Q. Please settle a heated argument by quoting correctly and telling where one may find the saying that the "children's teeth are on edge."

A. Jeremiah, 31st chapter and 29th verse, Revised Edition of the Bible reads: "In those days they shall say no more, the fathers have eaten sour grapes, and the children's teeth are set on edge."

Q. Has the actual date of creation ever been fixed according to theology? J. A. W.

A. Many theologians have occupied themselves with this problem. Bishop Ussher computed the year at 4004 B. C. A Universal History, a work of 42 volumes, published in London in 1779, devotes some space to the fixing of the actual time. It discusses the probability of its being March 21st, 4004 B. C., and September 21st, 4004 B. C., and inclines toward the latter date.

Q. Give a short biography of the life of Pastor Russell? D. V.

A. Charles T. Russell was born at Pittsburgh, Pa., February 16th, 1852, died October 31st, 1916. In early life he was a Congregationalist, but became an independent preacher and advanced a new theory of Bible teachings concerning the punishment of the wicked and the imminence of the 1,000 year millenium foretold in the Book of Revelation. It is said that he had over 50,000 adherents to his doctrines, and that 3,000,000 copies of his writings on the Bible were sold.

Q. What were the eight elements of religion propounded by the founder of Buddhism? F. O.

A. The eight elements of the Aryan Path set forth by Gautama were: Right Views; Right Aspirations; Right Speech; Right Conduct; Right Livelihood; Right Effort; Right Mindfulness; and Right Rapture.

Q. When and where was the term circuit riders first applied to itinerant Methodist preachers? I. G. S.

A. Circuit riders, in connection with the Methodist Church, were mentioned by Wesley as early as 1766. In Hampson's Memoirs of Wesley, published in 1791, it is stated that "Every part of Britain and America is divided into regular portions called circuits and each circuit containing 20 or 30 places is supplied by a certain number of traveling preachers."

Q. Are any of the trees of the Garden of Gethsemane still living? F. K. A.

A. On the land now known as the Garden of Gethsemane, there are eight very old olive trees, which tradition says were living in the time of Christ. The actual location of the Garden of "Our Lord's Agony" was lost, and the present site selected as the probable location.

Q. Has the College of Cardinals ever had four American cardinals before? B. N. G.

A. This is the largest representation that Roman Catholics of the United States have ever had. The four American cardinals are Archbishops O'Connell of Boston, Dougherty of Philadelphia, Hayes of New York, and Mundelein of Chicago.

Q. Why are certain unimportant words printed in italics in the Bible? G. C. S.

A. The American Bible Society says that the words which are printed in italics are not unimportant words. They are used as a rule to complete the translation of the Greek words or Hebrew words. The usages of the Hebrew language and of the Greek language do not permit of translation into English without here and there the necessity of adding an article or particle or something of the sort, or even another word in order to make complete sense out of a literal translation.

Q. I have heard that every day in the week is set apart by some people as Sabbath. Is this true? M. D.

A. Yes. Sunday is observed by most Christians; Monday by the Greeks; Tuesday by the Persians; Wednesday by the Assyrians.

Thursday by the Egyptians; Friday by the Mohammedans, and Saturday by the Jews and Seventh Day Adventists.

Q. What are the longest verses in the Old and New Testaments? J. W.

A. The American Bible Society says that according to their information, the longest verse in the Old Testament is Esther 8:9 and in the New Testament, Revelation 20:4.

Q. What verse in the Bible contains all the letters of the alphabet? J. M.

A. The 21st verse of the 7th Chapter of the Book of Ezra contains all the letters of the alphabet with the exception of the letter "j" which was not included in early alphabets.

Q. Which are the ten greatest chapters in the Bible? A. D. N.

A. The answer must be largely a matter of personal opinion. The following are suggested: Creation —Genesis 1; Fall of man and hope of redemption — Genesis 1-2; Commandments—Exodus 20; The 23rd Psalm; David's Psalm of Repentance—Psalm 51; Birth of Christ—John 1; Sermon on the Mount—Matthew, Chapters 5-6-7 (counted as one); Crucifixion—John 19; Resurrection—John 20; Revelation—Revelation 22.

Q. When and by whom was the Council of Trent summoned and how long did it last? K. C. B.

A. The Council of Trent was summoned by Pope Pius III in 1545. The ecumenical council lasted nearly twenty years as it was frequently interrupted by wars and other causes.

Q. What people worshipped the Juggernaut? G. I. H.

A. Juggernaut is one of the principal heathen deities of India. This god was taken out in procession periodically and many of the faithful prostrated themselves before his car, which was of great weight, and were crushed. This practice was abolished by the British Government.

Q. What is meant by the millenium? T. A. N.

A. The millenium, according to a widely accepted system of Christian eschatology, is a period of 1,000 years preceding the final judgment, during which Christ and his saints will reign on earth.

Q. How long did it take Noah o build the Ark?

A. There are no actual data as to the time it took Noah to build the Ark, but Professor James Orr, editor-in-chief of the International Bible Encyclopedia, estimates the time at 120 years.

Q. Who was the first bishop of the Methodist Episcopal Church to be ordained in the United States? F. G. D.

A. Francis Asbury was the first. He was born in England in 1745. He came to America in 1771, remaining through the Revolutionary War and suffering imprisonment. The title of Bishop was bestowed upon him in 1784. He traveled more than 270,000 miles, preached more than 16,000 sermons, ordained 4,000 ministers, and presided over 224 conferences. A statue of Bishop Asbury has recently been unveiled in Washington.

Q. Where is the largest Catholic Church in the world? J. K.

A. The largest Catholic church in existence is St. Peters at Rome. The seating capacity can hardly be estimated as much of it consists of corridors, etc. The building covers nearly four acres of ground and is said to be the scene of the torture of Christians by Nero and the martyrdom of St. Peter.

Q. Who was the first woman missionary from the United States? A. N. R.

A. The first woman missionary

officially sent out from the United States in modern times was the wife of Adoniram Judson, who in 1812 accompanied her husband and four other missionaries sent out by the American Board of Missionaries for Foreign Missions to India and Burma.

Q. What is the predominant religion of the Egyptians? C. G.

A. Ninety-two per cent of the 9,000,000 people who live in Egypt are of the Mohammedan faith. The remaining eight per cent are mostly Christians and Jews.

Q. What is the size of the National Cathedral in Washington? L. B.

A. The dimensions will be: Length, 480 feet; breadth, 132 feet; height of nave, 95 feet; span of nave, 39 feet.

Q. Was Peter, the first head of the Roman Catholic Church, married? E. D. L.

A. The gospel of Saint Matthew, Chapter 8, Verses 14-15, describes the healing by Jesus of the mother of Peter's wife, who "lay sick of a fever" at Peter's house. This indicates that Peter was married.

Q. What were the seven sayings of Christ on the Cross? M. E. S.

A. There is a great difference in the records of the four Gospels as to the sayings of Christ upon the Cross. The seven noted in the different Gospels are: "Today shalt thou be with Me in Paradise." "Woman, behold thy son. Behold, thy Mother." "Father forgive them, they know not what they do." "My God, My God, why hast Thou forsaken Me?" "I thirst." "It is finished." "Father, into Thy hands I commend My spirit."

Q. Why was the inscription placed over Jesus' head when on the cross? H. T. D.

A. It was a Roman custom to place over the heads of the crucified their names and the crimes for which they suffered. The Scriptures give the inscription over the head of Christ, but not over the thieves. According to the Bible the inscription was written in Greek, Latin, and Hebrew.

Q. What was the object of the Crusades? G. L.

A. The objects of the religious wars called The Crusades were originally to ensure the safety of pilgrims visiting the Holy Sepulchre and to set up Christian rule in Palestine. Later on, the attack was directed against Egypt and Constantinople and in the 14th century the conquests of the Ottoman Turks turned crusading into a defensive movement. It is usual to speak of the Crusades as six or seven in number, but actually the movement was continuous for over two centuries, hardly a decade passing without one or more expeditions.

Q. Why is the idea of fishing associated with Ascension Day? J. H.

A. It was upon the day that Christ went with his disciples to the Mount of the Ascension and was received up into Heaven, that the miracle of the draft of fishes occurred.

Q. Is Buddhism older than Christianity? H. F.

A. There are so many points of resemblance between Buddhism and Christianity that many have believed that Buddhism was an attempt to copy that religion. Most Oriental scholars agree, however, that it arose in the north of Hindustan between 500 and 600 years before Christ.

Q. What was the animal that carried Mohammed to heaven? A. C. H.

A. The animal with a human face, two wings, and a peacock's tail, which is supposed to have carried Mohammed to heaven, was called Alborak.

Q. Where did the Apostles die? R. V. E.

A. According to tradition, verified where possible, the deaths of the Apostles occurred at the following places: St. Matthew—Ethiopia; St. Mark—Egypt; St. Luke—Greece; St. John—Ephesus, in Asia; St. James the Great—Jerusalem; St. Phillip—Phrygia; St. Bartholomew—unknown; St. Andrew — Jerusalem; St. Thomas—East Indies; St. Jude—unknown; St. Simon the Zealot—Persia; St. Mathias—Jerusalem; St. Barnabas—Salania; Saints Peter and Paul—Rome.

Q. What is meant by Holy Year? S. T.

A. Holy Year is the year of jubilee of the Roman Catholic Church. Originally this took place every fifty years, but lately has been celebrated every twenty-five years. The Holy Door of the Basilica of St. Peters remains closed except in Holy Year when it is opened by the Pope with proper ceremonies.

Q. In Christ's day how long did the high priest in Jerusalem hold the office? G. T. K.

A. In early days the high priesthood was held for life and was hereditary. In Christ's day the office was held by the Nominees of the Romans, during their pleasure.

Q. What are the minarets on Mohammedan mosques for? R. G.

A. The minarets of Mohammedan mosques are the towers from which the officer whose business it is, issues the Muezzin or call to prayer, at which signal all true Mohammedans face toward Mecca and engage in devotion.

Q. Does the Mormon Church practice polygamy? J. F. C.

A. The Mormon Church disavowed the practice of polygamy. Any plural marriage is unlawful both in the state and in the church.

Q. Was there really a gate in Jerusalem known as The Eye of the Needle? T. C. L.

A. It is a fact that there is in the wall of Jerusalem a small gateway built for the use of pedestrians and known by a name which is translated as The Needle's Eye. Through this gate it is quite possible for a small under-nourished camel, divested of all its equipment, harness, etc., by kneeling, to work its way, though not without difficulty.

Q. What is an encyclical? C. T. T.

A. An encyclical is a circular letter and in an ecclesiastical sense means a letter addressed by the Pope to all the bishops in the world who are in communication with him.

Q. When was Mohammed born? A. S.

A. The traditional date of Mohammed's birth is 570 A.D. It is thought that Mohammedanism was founded about 610 A.D.

Q. How were the cards in a pack designated by the soldier who said they were his Bible? P R. T.

A. Ace—one God; Deuce—Father and Son; Trey—the Trinity; Four—Evangelists, Matthew, Mark, Luke and John; Five—five wise, five foolish virgins; Six—time in which the world was created; Seven—the Sabbath; Eight—eight people saved from the Flood; Nine—nine lepers who failed to return to worship; Ten—Ten Commandments; Knave — Devil; Queen—Queen of Sheba (to seek after wisdom); King—King of Kings (to pray to God); 365 spots in a pack—days of the year; 52 cards—number of weeks in the year.

Q. How often do the words God and Lord appear in the Bible? B. P.

A. The Greek, Hebrew and Aramaic words which may be translated as Jehovah, or Lord, are found in the Authorized Version, 6,855 times, according to research made by a well-known Bible scholar.

Q. Is there any decision of the United States Supreme Court declaring the United States to be a Christian nation? C. I. D.

A. Mr. Justice Brewer in a decision rendered in 1892 in connection with the Alien Contract Labor Act stated that in his opinion the fact that "the form of oath, the custom of opening the National and State assemblies with prayer, the laws of Sabbath observance, with the closing of courts, legislature and similar public assemblies on that day, the number of churches, missionaries, philanthropists—these and many other matters which might be noticed add a volume of unofficial declarations to the mass of organic utterances that this is a Christian nation."

Q. When did Moody and Sankey make their tour of the British Isles? M. C.

A. The great evangelical tour of Dwight Moody and Ira D. Sankey in Great Britain took place in 1873 to 1875.

Q. How many Spiritualists are there in this country? W. M. S.

A. The National Spiritualist Association reports in the United States a membership of about 600,000.

Q. What is the carpet of Buddha? C. B. A.

A. In the Buddhist Monastery of Kumbun, Tibet, there is a carpet of silk tapestry having an area of 30,000 square feet, which is embroidered with a portrait of Buddha, and pictures depicting incidents of his life. Once a year at noon on a sunshiny day, the carpet is spread on a neighboring hillside, and thousands of pilgrims assemble to view it.

Q. Which is the oldest of Christian festivals? H. T. H.

A. The festival of Easter. Its observance began in the apostolic age.

Q. What was the first Christian execution for heresy? F. L. W.

A. The first Christian to suffer death for his belief at the hands of fellow Christians is said to be the Spaniard Priscillian, who was executed at Treves in 385 A.D. by order of the usurping Maximus.

Q. What is the salute to the church flag? W. H.

A. The salute to the Christian flag was written by the Reverend Lynn Harold Hough and first used in the Sunday School of the 3rd Methodist Episcopal Church, Long Island City, New York, Christmas eve, 1908. It reads, "I pledge allegiance to my flag, and to the Saviour for whose Kingdom it stands, one brotherhood, uniting all mankind in service and love."

Q. Were monasteries and institutions for religious orders started by the Christians? L. S.

A. The building of monasteries and institutions of religious orders did not originate with the Christian world. These were known to the ancient Egyptians and were prevalent among Jews and later among Mohammedans.

Q. Was there a time when preachers were applauded? E. G. T.

A. Eusebius says that Paul of Samosata encouraged the congregation to applaud his preaching by waving linen cloths and in the fourth and fifth centuries applause of the efforts of popular preachers was customary. The reverential spirit of worshippers, however, gradually led to the abolition of applause.

Q. When was the missionary ship, The Morning Star, sent out? A. H. B.

A. The first missionary ship under the name of The Morning Star was built for $12,000 from the contribution of Sunday School children in the United States, and sailed from Boston on December 2, 1856, to the South Sea Islands.

LIX

SPORTS

Q. Did Walter Johnson ever pitch a no-hit game? G. D. N.

A. Walter Johnson pitched one no-hit game July 1, 1920, when Washington played Boston. The score was one to nothing.

Q. What college first played football as we now have the game? H. O. C.

A. This sport was originally introduced into American colleges by Harvard.

Q. Are there any games played by children today that were played in the time of the Romans? M. C.

A. The games of jacks, ball, and jumping rope were played by the children of the Romans.

Q. How fast must an automobile be driven to pass the tests for entrance in races on a board speedway? J. K.

A. The speed necessary to pass the trials is 120 miles per hour.

Q. What golf course in the United States has the highest altitude? G. B.

A. Cloudcroft, New Mexico, lays claim to the loftiest golf course in the United States. The course laid out on top of the Sacramento Mountains is some 9,000 feet above sea level.

Q. Who invented dancing? M. C. E.

A. Few savage tribes have been discovered which did not dance. The earliest civilization of the Egyptians included dancing and its invention was ascribed by them to their god Thoth.

Q. Who was known as the father of professional prize fighting? R. C. M.

A. Although fighting with fists has probably been practiced in England for many centuries prior to the advent of James Figg, historians generally agree in giving him this honor.

Q. How long have ice skates been used? O. S.

A. They were known as long ago at least as the 10th or 11th century, when they were mentioned in the Icelandic Edda. Carvings of older times show crude skates. Probably the first objects used to assist men in propelling themselves over the ice were smooth animal bones tied to the foot coverings.

Q. How many bathers could be accommodated in the Baths of Diocletian? M. B. H.

A. Probably more than 2,000. During the days of the Empire, six of these enormous establishments were constructed.

Q. In checkers, is a jump compulsory? M. F. W.

A. According to the rules of checks it is compulsory for a player to jump his opponent if he has the opportunity.

Q. What are the requirements for a driver in automobile races? G. F.

A. The qualifications necessary for a man to become a driver in

auto races are that he be registered with the Contest Board of the American Automobile Association and in good standing with them, and have sufficient experience positively to warrant the officials permitting him to drive. It is necessary for an applicant for registration with the A. A. A. to qualify before receiving a license. The only exceptions to this are when an applicant is approved by one of their representatives or has the endorsement of three prominent and well-known drivers.

Q. Who makes and modifies the rules for cricket? A. M.

A. The rules that govern the game of cricket are made by the Maryelborn Cricket Club of London.

Q. Can an ice-boat go faster than the wind that drives it? O. E. W.

A. It can attain a greater speed. An ice-boat encounters the greatest velocity of wind when its course is 90° from the wind, and when the apparent wind is twice the actual velocity. The greatest speed is attained 120° when her speed is twice that of the wind. The most rapid progress to leeward is made at 150° when the apparent velocity of the wind will be equal to its true velocity.

Q. Is the English derby open only for English-bred horses? L. J. B. M.

A. The English derby is open to foreign-bred horses. It is a race restricted to three-year-olds.

Q. When was the first automobile race run? H. R.

A. The first record of an automobile race is the one from Paris to Rouen, which took place in June, 1894. A distance of 75 miles was accomplished at a speed of almost 15 miles an hour.

Q. How large is a polo field? A. D.

A. Polo grounds are usually 900 feet long by 450 feet wide.

Q. What do they mean when they say that a race was hippodromed? G. R. H.

A. A race run with all the appearance of a real contest but in which the winner is pre-arranged, as in a circus chariot race, is said to be hippodromed.

Q. What is the oldest game of ball? J. O. H.

A. Hand-ball is believed to be the parent of all our modern games of ball, the ancestor of tennis, cricket and baseball. Very gradual was the evolution to a game where something besides the naked hand was used for striking the ball. First the hand was covered with a glove to protect it. Then came the first rude form of racquet and bat, which underwent many changes until the present-day racquet and bat were evolved.

Q. Who won the race that was run between a man and a horse? C. F. K.

A. In 1921 George Walsh, a movie athlete, defeated a race horse at the Aqueduct track, Long Island. Walsh was given a handicap and the race was run over the infield, with turns more difficult for the horse than for Walsh. The race was to settle a wager Walsh had with Jockeys Sande and Fator.

Q. What was the time made by Gertrude Ederle in swimming the English Channel? M. A. B.

A. Gertrude Ederle was the first woman to swim successfully the English Channel. Her time was 14 hours and 34 minutes, beating the previous record made by Tiraboschi, the Argentine, by 2 hours less 1 minute.

Q. Is handball played in England? F. F.

A. There the game is known as fives.

Q. How is an egg dance performed? J. N.

A. This is a very old English dance. Eggs are placed on the floor at certain distances and the dancer, blindfolded, takes his position. To the music of a hornpipe he dances back and forth among the eggs without touching them. The egg dance seems to be a sword dance, robbed of its danger and supplied with a comedy element.

Q. What events are included in a decathlon? D. C.

A. In modern Olympic games, the decathlon is a composite event which includes 400-meter run, a broad jump, a running high jump, putting the shot, throwing the discus, a 100-meter hurdle race, pole vaulting, throwing the javelin, and a 1,500-meter run.

Q. In a four-handed game of horseshoe pitching, can one advise the other? A. N. E.

A. Partners may coach each other. Other contestants or onlookers are forbidden to coach a player or interfere in any manner with the pitcher during the progress of the game.

Q. What are the odds in shooting craps? J. W. P.

A. The odds are 351 to 244 against the caster.

Q. How many men have caught balls thrown from the Washington Monument? J. J. J.

A. Three men have done so. On August 29, 1894, Schriever, Chicago star catcher, performed this feat, which had never before been accomplished. Charles Street made this catch in 1908, while Sullivan made his catch on August 24, 1910.

Q. When was the game of marbles invented? F. L.

A. This game has been known from the earliest times, and is played among all the peoples of the world. Marbles are manufactured in large quantities in Saxony and are exported to India, China, Africa, and practically every nation of Europe and America.

Q. How fast do people on skiis go, and is a 70-foot leap a long one? A. B.

A. Great speed can be attained by experts on skiis. It is possible for such persons to travel at the rate of a mile in a minute and a half. Leaps of 75 feet are no longer unusual. One of the greatest leaps ever made was by Regnar Omtvedt of Chicago, in 1916—a distance of 192 feet 9 inches.

Q. When, and where, and against how many players did Paul Morphy play chess while blindfolded? H. E. M.

A. In 1858 Paul Morphy (born 1837, died 1884) toured Europe as a chess champion. In both London and Paris he played blindfolded against eight strong players simultaneously. Morphy was one of the greatest chess champions that ever lived and commenced his extraordinary career when but twelve years of age.

Q. What names do other countries give to the game of checkers? D. M.

A. In England the game is known as draughts; in France, Jeu des Dames; Italy, das Damenspiel; Holland, Damrod; Poland, Dama; in the Arabic of Egypt, Damah. The recurrence of the forms of Dame is attributed to the fact that part of the board and some of the draughts of Queen Hatasa, daughter of Thothmes, who lived in Egypt 1600 B.C., have been found.

Q. What is the circumference of the ball used in playing lacrosse? H. C. H.

A. The one ball with which the game is played is of rubber sponge, not exceeding 8 inches in circumference nor 5 ounces in weight.

Q. Has football always been played by teams of eleven? H. J.

A. When the game of football was first played, 15 men were on a team. The number was reduced to 12 and then 11, as it now stands.

Q. How did the custom of standing in the seventh inning at a ball game originate? C. S. C.

A. We have consulted many old baseball men and authorities, but none of them can answer definitely. The custom was followed as early as 1890. Some claim it was due to the old term of craps—come seven.

Q. What games are played at Monte Carlo? B. B. D.

A. The chief gambling games played in the Casino are roulette and trente-et-quarante, with stakes ranging from 5 to 6,000 and 20 to 12,000 francs, respectively. The gaming tables are patronized by people from all parts of the world, but are forbidden to the natives of the principality of Monaco, in which Monte Carlo is situated.

Q. How old can boys be and still be eligible to the national marbles championship? H. L.

A. Boys of fourteen years or younger are eligible to the marble games. They enter from any one of the playgrounds of their particular neighborhood. A winner of each playground competes with other winners and the elimination continues until the champion is decided upon. The champion of that city then goes to Atlantic City for the final game.

Q. When and where did the game of croquet originate? D. H.

A. There are no authentic data regarding the origin of this game, which was a favorite of kings some 200 years ago. Some writers say that it was evolved from the game paille-maille, which was played in Languedoc as early as the thirteenth century.

Q. Can a pitcher throw a ball in a straight line for a certain distance; then cause it to drop suddenly or turn to one side? E. A.

A. This is possible. The spitball will do this.

Q. How many times will a billiard ball go back and forth with one shot? R. F. P.

A. On a Brunswick Balke Collender Table, five feet by ten feet, with Monarch cushions, the record length which a ball has made is five times the length of the table.

Q. In playing polo, is hooking a stick allowed? H. W. G.

A. In British play, a player is permitted to hook an opponent's stick if the latter is in the act of striking at the ball, provided he be immediately behind him or on the same side of his pony as the ball; in American play, hooking a stick is prohibited.

Q. When did the game of jackstones originate? W. R. D.

A. Dibbs is the English name of a game dating from remote antiquity which consists in throwing up the joint bones of the legs of sheep and catching them as they descend, first on the palm of the hand and then on the back of the hand. In Scotland small stones are substituted and the game is known as chucks. It is similar to the American game of jackstones.

Q. In which direction should a tennis court be laid out? J. Y.

A. Tennis courts should be laid out with the ends north and south.

Q. How long has cricket been played in England? S. H. L.

A. There are some evidences of a similar game having been played in the 14th century, but it is probable that cricket was not known until some time in the 16th century.

Q. What are the most popular games in Latin America? M. W. V.

A. Basketball is being introduced into a number of the coun-

tries of Latin America, while pelota, a sort of handball game, is also very popular. Chess is one of the great indoor national games, while card playing is popular with all classes of the population.

Q. In playing horseshoes what is the distance between pegs? J. R.

A. The standard pitching distance from peg to peg, or from peg line to peg line, is 40 feet.

Q. When was football first played? H. A.

A. Football is a sport of great antiquity. A form of the game was played by the ancient Greeks and a similar game by the Romans.

Q. Is the Scotch game shinty the same as our shinny? E. McT.

A. Shinty is the Scotch name for hockey, which is also known as hurley in Ireland. It is not to be confused with the American game of shinny.

Q. Has there ever been a world's champion checker player? C. E. W.

A. There has never been an established world's championship for the game of checkers. However, the late James Wyllie, of Scotland, has been rated the greatest master of the game.

Q. Who first pitched a curved ball in baseball? W. G.

A. Cummings of the Stars of Brooklyn was the first pitcher to curve a ball.

Q. Who was the first catcher to wear a glove? W. W. T.

A. Allison, the Cincinnati Red catcher of 1869, was the first to wear a glove on his left hand.

Q. How should a tennis racket be taken care of? F. W.

A. The most important thing is to keep a tennis racket dry. After being used, it should be wiped with a dry cloth, placed in a waterproof cover and a press.

Q. What is the Chinese game Mah Jongg? D. W. T.

A. This game is played with blocks of bamboo faced with ivory. They resemble our dominoes after a fashion, but the game is more like the card game Khun Khan or Rum.

Q. Was the game of chess invented by a man or woman? E. W. E.

A. There is no actual information on the origin of chess. It is believed to have originated in India and its primitive form was called Chaturanga. It is mentioned in Hindu literature at least 3,000 years before Christ. It spread through Burma to Tibet, Siam, China, Malacca, Java, and Borneo, and was taken from China to Japan. It came westward through Constantinople probably in the sixth century. The Arabs passed it to Syria, during the seventh century. It was carried to Scandinavia and the north and gradually spread through Europe, by way of the Bosporus and the Danube.

Q. Is it good for a football to be rubbed with oil? W. L.

A. A football will wear better if it is kept soft by rubbing with neat's foot oil.

Q. How can a person figure for himself what he should win in a pari-mutuel betting machine, when his horse comes in first? A. B.

A. Each horse in a race is represented by a numbered ticket. As each ticket is taken from the machine it registers automatically at the top of the machine, showing at all times just how many tickets are sold on each horse. The bettor can therefore figure just what amount is in the pool and after deducting the five per cent (the club's commission), and dividing by the number of tickets sold on his horse, he will know just how much he stands to win if his horse comes in first.

Q. Who owns the Banff golf course? C. H. H.

A. It is owned and managed by the Canadian Government. Situated nearly a mile above sea level, it is one of the most picturesque links in the world.

Q. Do fat people float easier than thin ones? T. O. D.

A. Fat persons float easier than lean persons, for the reason that adipose tissue is lighter than that part of flesh which consists principally of muscle without fat.

Q. When did baseball clubs adopt short pants? B. C.

A. The first club to wear the present style of uniform with short pants was the Cincinnati Reds in 1863.

Q. What is meant by winter rules and summer rules in golf? H. K.

A. Under summer rules, a player must play his ball as it lies, while under winter rules, he is permitted to improve his lie or tee up his ball everywhere except in hazards.

Q. What is the other name for catch-as-catch-can wrestling? J. R. K.

A. This is the Lancashire style of wrestling and is practised not only in Lancashire, England, but throughout America, Australia, Turkey and other countries. It is the legitimate follower and representative of the ancient Greek sport and of the wrestling of the Middle Ages.

Q. When did the present method of scoring tennis become general? R. M. S.

A. In the early days of lawn tennis two methods of scoring were used, almost indiscriminately. One of these was the scoring used in the game of racquets and the other the tennis scoring. In 1878 the tennis method of scoring was adopted and the racquets scoring abandoned. No material change in the method of scoring has been made since 1878.

Q. Did the Marquis of Queensberry ever fight under the rules which bear his name? T. B.

A. The Marquis of Queensberry took a great interest in boxing and in 1865 decided that the rules of the London prize ring were rather brutal. With the assistance of Arthur Chambers he framed the rules and these two men fought for the lightweight championship in 1872, the Queensberry rules governing the contest.

Q. What percentage of the money received from games played in the National League does the visiting club get? F. A. E.

A. The ratio of the gate receipts between home and visiting teams used to be 60-40, but at present time, since taxes and commissions are figured in, the ratio is approximately 65-35.

Q. What is shadow boxing? G. A. E.

A. Shadow boxing is boxing without an opponent.

Q. Are the tennis championship games played on grass or clay courts? C. H. L.

A. There are two National championship tennis games held. There is a National championship on turf courts and also a National clay court championship.

Q. What is done with the money that is taken in at college football games? R. R.

A. Generally speaking, football is the only game in the college athletic curriculm which is financially profitable. Some of the lesser sports are a heavy drain on the athletic associations' treasuries, and are usually maintained by diverting some of the football profits to them. Much of the money goes to maintaining athletic equipment, building gymnasiums, swimming pools, and athletic fields and grandstands.

Q. Is hockey an ancient game? A. M. W.

A. In some form, hockey has been known to most of the northern peoples of Asia and Europe. The Romans played a game very similar to hockey.

Q. What has been the shortest time for a game of organized baseball? B. R.

A. The shortest game by time was 51 minutes played by New York and Philadelphia of the National League at the Polo Grounds in New York City, on September 28, 1919. The score was: New York 6, Philadelphia 1.

Q. How fast does one man paddle a canoe, and how fast can two paddle? M. R.

A. A man paddling a canoe at a good rate may be able to paddle at about three miles an hour; two men at about four miles an hour.

Q. When was admission first charged for a baseball game? H. T. B.

A. The first time admission was ever charged to see a baseball game was on July 20, 1859. The game was played between teams from Brooklyn and New York, taking place on the Fashion Race Course, Long Island. Over 1,500 people paid 50 cents to watch the contest.

Q. How long have boxers used boxing gloves? A. T. D.

A. It has been supposed that the first glove contest was the battle between John L. Sullivan and James J. Corbett for the heavyweight championship in 1892. This was the first big glove contest in America. There is a record of a boxing bout in France between two English boxers in 1818, which mentions the fact that both men wore huge padded gloves.

Q. Where did the game of bowling originate? O. M. S.

A. It originated in Europe, probably in Germany or the Low Countries.

Q. What is the greatest loss in weight that a player has experienced in a football game? J. W. B.

A. The greatest loss of which we know is that of Bill Edwards, who lost thirty pounds in a Princeton-Yale game. He was All-American Guard.

Q. Why was Christy Matthewson called Big Six? B. B. S.

A. He was so named for a New York chapter of the Typographical Union. This No. 6 was so prominent in labor affairs that popular Christy Matthewson was also called Big Six.

Q. Who arranged the tournaments of the Middle Ages? C. D.

A. A tournament was usually held at the invitation of some prince. The death of Henry II of France in 1559, following the loss of an eye in a tournament, led to the abandonment of the sport in France, and soon afterward in other countries.

Q. What is the Sportsman's Platform? D. V.

A. In 1909 the Camp Fire Girls of America adopted an official code of hunting ethics, known as the Sportsman's Platform, which is summed up in the declaration that "the best hunter is the man who finds the most game, kills the least, and leaves behind him no wounded animals."

Q. Is an indoor or outdoor track considered faster for middle distance? J. J.

A. The outdoor track is generally considered faster.

Q. What are cocoanut shies, as used in some of H. G. Wells' books of fiction? B. N. G.

A. A cocoanut shy is a form of sport, played with an outfit of cocoanuts set up, as by a strolling faker, to be thrown at with sticks.

Q. What is the English national game? L. W.

A. Cricket is regarded as the English national game.

Q. What is a charley-horse? H. C. G.

A. Charley-horse is a slang phrase used in reference to a severe pain. Athletes seem to be especially susceptible to this condition. Grantland Rice defines it as a sudden bunching of muscles into a hard knot and says that it is one of the most prevalent and most painful of athletic ills.

Q. What kind of wood is used for bows and arrows? R. J.

A. In this country Pacific yew is considered the most satisfactory native wood for bows. Osage orange is also desirable, but both of these woods are scarce. Foreign woods that are often used are greenheart and wych elm. Arrows are usually made of red pine, eastern spruce, or Douglas fir.

Q. How large is a bowling green? D. R.

A. A bowling green may be of varying extent. Usually they are from 40 to 60 yards square. Such space affords ample room for play; a stretch of 35 or 40 yards of trig and jack is quite enough to play over.

Q. Do the reformers who object to prize fights object to boxing as a sport? R. H.

A. Boxing is generally recognized as a harmless, character-building sport. Usually it is not condemned by those who protest against prize fighting.

Q. In swimming events are competitors allowed to anoint their bodies with oil? H. L. F.

A. The Amateur Athletic Union does not allow any preparations to be used in events conducted under their rules. It is said that swimmers who have attempted to swim the English Channel have used olive oil to anoint themselves.

Q. Has there been any great left-handed golf player? H. F.

A. The American Golfer says that there has been no great left-handed player, and the percentage of left-handed players is very small. Some few left-handers are very good players, but many are below the average. One reason advanced for this is that about 50 per cent of those playing with left-handed clubs are really right-handed, and should be playing that way.

Q. Who invented checkers? E. E. B.

A. The game of draughts or checkers is said to be of the greatest antiquity. Pieces of checker boards and men have been found in tombs of Egyptian rulers of a date not later than 1600 B.C. Some of these are at present preserved in the British museum. Homer in his Odyssey speaks about this game being played by the suitors of Penelope.

Q. At Thanksgiving or on other special occasions did the Pilgrims dance? J. T.

A. The Pilgrims were followers of the Puritan Movement and, as such, abhorred dancing in all forms, Maypole and mixt.

Q. What is the oldest Washington, D. C., golf course? W. T. O.

A. The Chevy Chase Club, Chevy Chase, Maryland, has the oldest golf course within the immediate vicinity of Washington.

Q. Who started the Royal Blackheath Club? O. H. W.

A. There is a tradition that King James I played the first game of golf at Blackheath in 1608. From that time a club was organized at Blackheath of the better class of Scotchmen. This club, the Royal Blackheath Club, was one of the first golf clubs in Scotland.

Q. What is the origin and meaning of the Preakness? E. F. N.

A. The name Preakness, as applied to the $50,000 stake run at the Pimlico Spring Meeting, is so-called after the horse that won the first Dinner Party Stake, afterwards known as the Dixie Stake, at Pimlico in 1870. This was the most famous racing event of the time. The Preakness stake was first run at Pimlico in 1873, and was won by John F. Chamberlin's Survivor.

Q. Where was the first golf club started in the United States? W. E. H.

A. The United States Golf Association says that the earliest authentic record of the first golf club in the United States is found in an advertisement in The Georgia Gagette of September 22, 1796, when the Savannah Golf Club, Savannah, Georgia, celebrated its anniversary at the Merchants and Planters Coffee House. Golf was played by members of a regularly organized club in Savannah prior to 1796 and continued for about thirty years, eventually lapsing into a quiet hiatus some time about the year 1850. A bronze tablet in the club house of the present Savannah Golf Club reads: "Savannah, the Birthplace of Golf in America."

Q. Are skis more efficient than snowshoes? If so, why are snowshoes used? R. A. C.

A. Owing to the thick forests of America, the snowshoe has been found to be more suitable for use than the ski, which is preferred in less wooded regions. The large, flat surface of the snowshoe furnishes a larger plane of resistance to the soft snow and by distributing the weight of the wearer over a larger surface does not break the brittle crust on top of the snow, which makes progress without snowshoes impossible.

Q. When may a ball be said to be lost in golf? H. A. C.

A. So far as the match behind is concerned, a ball is lost when the player cannot walk up to it, locate it promptly and continue his play; as against his opponents a player cannot be said to have lost a ball until he has spent five minutes in vain search for it.

Q. How long have they been having golf tournaments in England? F. B. L.

A. The first British open tournament was played in 1860 and the first amateur in 1886. The first British women's tournament took place in 1893.

Q. What has become of the old Metairie Race Course? R. L. J.

A. The Metairie Race Course in New Orleans was one of the most notable in the United States, but went out of existence in 1870. The land was bought in 1872 and converted to its present use as a cemetery.

Q. Why is a football field called a gridiron? W. P.

A. A football field is frequently called a gridiron from the white five-yard lines that cross it, which make it resemble a gridiron.

Q. What is the most important in playing golf, correct stance, proper club, or proper swing? M. C. G.

A. Jim Barnes says that all three are part of a good game of golf, but that no one of them is the most important thing in golf. He emphasizes the very great importance of mental control. Decide upon the club to use, decide upon the stance, decide upon the swing, and then decide to hit the ball. After the stroke is started, think of nothing else but hitting the ball.

Q. Where is the fastest race track in the country? J. C.

A. The hardest race tracks are the tracks on which the fastest time can be made by a horse. A sandy track such as Bowie, Maryland, is a slower track. Belmont Park, New York, is a hard dirt track and is one of the fastest of the country.

Q. Are full handicaps allowed in the play-against-par competitions in golf? L. O. C.

A. As a general practice in handicap matches against par, the players are allowed three-fourths of their handicaps, taking the strokes on the holes indicated on the card. For instance, a 12 handicap man would be allowed 9 strokes, and would thus have a stroke on each of the 9 holes, rated as the most difficult of the 18, and could win each or any one of those holes by scoring par thereon.

Q. Who revived polo in this country? T. L.

A. Harry Payne Whitney gathered the first Big Four, composed of himself, the two Waterburys and Devereux Milburn. He trained them along lines of fast galloping and offensive tactics, and finally took the team to England in 1909 and won back the International Trophy, which had been held there since 1886.

Q. How much room is allowed for each horse in a race? J. L. M.

A. Five feet of space is allowed for each horse entered in a race.

Q. How are ivory billiard balls cleaned? A. L.

A. Ivory billiard balls can be cleaned with a soft cloth, moistened with tepid water. Where the balls are so dirty that this is not effective, a small quantity of alcohol can be used satisfactorily by applying same to a cloth and rubbing the balls until they are clean.

Q. Do Chinese play Mah-Jongg as Americans do? M. C. C.

A. It is said that Chinese players confine themselves chiefly to building up a strong defense, while Americans and Europeans adopt the offensive tactics.

Q. When were the first Olympic Games held in Greece? A. B.

A. The first Olympiad was held in 776 B.C.

Q. If a man enters a golf tournament and wins a prize for the qualifying round, is he obliged to play in the tournament? H. A. J.

A. The United States Golf Association says that players who do not continue in match play rounds of a tournament should be considered to have forfeited any prize that they may have won in the qualifying round.

Q. When was the first professional baseball association organized? M. A. D.

A. The first professional association in baseball was organized March 17, 1871, at Collier's Saloon, Broadway and 13th Streets, New York City. The convention was called by Henry Chadwick, the veteran baseball editor.

Q. What is curling and what do the terms skip and bonspiel mean? M. M.

A. Curling is an ancient game originating in Scotland, known to have existed previous to 1600. It is played on the ice with large, smooth stones of hemispherical form, to which are attached iron or wooden handles. The first club formed in the United States was at Pontiac, Michigan, 1842. Skip is the name of the player, one on each side, under whose direction the ice is swept, this being done in a special manner. Bonspiel is the name for curling matches with picked players.

Q. Why are some races called derbies? M. H.

A. The Derby is an annual horse race at Epsom in Surrey, England, generally on the Wednesday before Whit-suntide. It is named for the founder, the 12th Earl of Derby (1780). Elsewhere a race called a derby means a race of first importance.

Q. Can a player that has been given six bisques use more than one on a hole? J. A.

A. The American Golfer says that a stroke bisque is one that a player may apply as he sees fit. If he chooses to take more than one of his allowance on one hole he is entitled to do so.

Q. How long was the Greek Marathon race? C. L. A.

A. The runner who carried the message of Greek victory after the battle of Marathon traveled about 24 miles.

Q. How long does it take to play a game of polo? O. V. L.

A. A game of polo is divided into six periods of ten minutes each, with three minutes intermission after each period, excepting the third, and then five minutes.

Q. What race horse was named for a President's mother? T. L.

A. Nancy Hanks, a famous American trotter, was named for the mother of Abraham Lincoln. In 1892 this horse broke the trotting record of Sunol, 2:08¼, by a mile in 2:05¼. This record she lowered to 2:04 in October, 1892.

Q. How is the city chosen for the Olympic Games? D. H.

A. The International Olympic Committee selects the city in which the Olympic Games will be held. In 1928 they are to be held in Amsterdam, Holland.

Q. Where did the polonaise originate? D. L.

A. The polonaise, a Polish dance, is believed to have originated at the coronation of Henry d'Anjou at Cracow, 1574.

Q. Was basketball ever called by any other name? D. V. H.

A. Dr. Naismith, who invented the game, says he gave it the name Indoor Rugby. One of the players on one of the first teams suggested the name Basketball and it was promptly adopted. The fundamental principles of playing the game have never been changed.

Q. What is the approximate cost of a fully equipped racing car of an up-to-date 91.5 cubic inch type? C. K.

A. The American Automobile Association says the approximate cost of a modern racing car 91.5 cubic inch type would be $16,000.

Q. What is meant by a back game at chess? C. C. G.

A. The continuance of a game on the strength of a hypothetical move.

Q. What commission is deducted from the wagers made at the race tracks in Maryland, Kentucky and France? Who gets it? W. B. M.

A. In Kentucky and Maryland, 5 per cent of the wagers made at the race tracks goes to the clubs. In France an average of 8 per cent commission is taken by the Government and devoted to prescribed uses.

Q. At what age should children e taught to swim? R. P. H.

A. The age at which children can be taught to swim varies with the individual child, the instructor and the pool. A number of children 3 years of age have been taught to swim, though 4, 5 and 6 years are generally better ages. It has been found that teaching youngsters at an early age is more easily accomplished at a seashore or watering place, inasmuch as very few pools have places shallow enough to touch the bottom.

Q. Kindly name some typical games played by Chinese boys. A. A.

A. Such games include Blind Man, Man Wheel, Forcing the City Gates and Sticking the Stick.

Q. Where is the world's longest automobile speedway? J. K.

A. The world's longest speedway within its own property limits is the Indianapolis Speedway, which is 2½ miles long. However, at Monza, Italy, combining the speed-

way and the highway, the automobiles run a course of 5 miles.

Q. Who conducted the tennis matches in England in which Miss Helen Wills played? Did she receive a salary? S. G. C.

A. The tennis tournaments to which you refer are conducted by the British Lawn Tennis Association. Those who participate are amateurs and therefore do not receive compensation for their efforts. Miss Helen Wills did not gain any financial advantage.

Q. What is the largest and smallest bets taken in the mutuel machines? C. G. B.

A. The Maryland Racing Association says the minimum amount that can be bet in the mutuel machines is $2.00, and betting booths are provided at which tickets are sold for larger amounts, the largest ticket being for $50.00.

Q. Where was golf first played? C. W.

A. Golf is possibly of Dutch origin. The Romans had a game called paganica, played with a crooked stick and a ball of leather, and in England during the reign of Edward III the game was called bandy ball. The Dutch game differs greatly from the Scottish, and it is believed that golf is a direct descendant of the game of shinty, but is probably a combination of both. Golf was extensively played in Scotland in 1457.

Q. Please describe the Indianapolis Speedway. H. T. M.

A. The Indianapolis Race Track is 2½ miles long. The track is 60 feet wide at the turn and the first 50 feet are banked 8 feet 3 in. The last 10 feet are banked at 11 feet 10 in. The short and long straightaways are level. The fastest time made there was by Peter DePaolo who made an average of 101.13 miles per hour on this track.

Q. Are there any race horses now living that are related to Hamiltonian 10? D. H.

A. There is not a present-day trotter or pacer of any importance that does not trace to Hamiltonian 10, as no less than 138 of his sons have become producers of speed, as have over 100 of his daughters.

Q. What were the three largest purses won by Zev, and his total winnings? J. L. J.

A. The Belmont Purse of $38,000, the Kentucky Derby of $53,600 and the International Race prize of $80,500 were the three largest purses won by Zev, whose winnings have totaled $286,573.57, according to the Jockey Club's official record.

Q. How is a six-day bicycle race scored? E. R. P.

A. It is scored according to the Berlin System. Prizes are given to those who lead at the end of a certain period of time or a certain number of miles. The old system was to give the prize to the one who won at the end of the race.

Q. When was the first international yacht race sailed? G. M.

A. The first race took place August 22nd, 1851, when the American's yacht, America, defeated the British yacht Aurora by eighteen minutes.

Q. Do the same horses run at Saratoga and Churchill Downs? M. F.

A. Many of the same horses run at the Churchill Downs track as at Saratoga. On an average the purses at Saratoga are larger, although the Kentucky Derby at Churchill Downs has the largest purse of any individual race in this country.

Q. What are some of the dances that were popular in the 18th Century? T. J.

A. Among them were High Betty Martin, Rolling Hornpipe, Constancy, The Lady's Choice, and The Strap.

Q. Why are Marathon races so-called? G. C.

A. The names commemorate the Greek youth who ran from Marathon to Athens in 490 B.C. to carry the news of a battle victory.

Q. On what kind of tracks do the American Automobile Association races take place? G. U. H.

A. The Indianapolis Speedway is a brick oval; tracks at Los Angeles, Fresno and Cotate, California, Kansas City and Altoona are of board; while at other places affiliated with the American Automobile Association are dirt tracks.

Q. What is the entrance fee for the Memorial Day Auto Race in Indianapolis? F. A. G.

A. The Contest Board of the American Automobile Association says that the entrance fee is $100.

Q. How long is the race course at Ascot Heath? J. W.

A. This famous English race course is almost exactly two miles. It was laid out 29 miles from London, in 1711, by order of Queen Anne.

Q. How long have jockeys worn colors to identify them? G. L. D.

A. There are records to show that King Henry VIII as early as 1530 dressed his jockeys in colors—but nothing to prove that the colors were always the same. In 1762 the Jockey Club posted a notice to the effect that several owners of racing horses had selected colors to be worn by their jockeys. Some of the colors chosen then are still in use by the same families.

Q. Is there any limit to the value of prizes in tennis tournaments? R. E. G.

A. At a meeting of the Executive Committee of the United States Lawn Tennis Association, held December, 1921, a resolution was adopted asking all clubs affiliated with the association to limit the value of prizes offered. In both invitation and open tournaments the value of the first prize was to be limited to $50.00 and the second to $25.00.

Q. In playing golf, can the ball be dropped out of casual water anywhere on the course without penalty? C. J. P.

A. A ball may be lifted from casual water through the fairway or on the green without penalty, but casual water in a bunker becomes a water hazard and must be played as such, with the loss of one stroke for lifting or dropping out.

Q. Who owns the Latonia race track? M. F.

A. The Latonia Agricultural Association was granted a charter by the Kentucky legislature in 1882. The first race meeting was held in June, 1883. This track in the hills of Kentucky is across the Ohio River from Cincinnati. In 1918, after several changes of control and management, but without interruption of racing, Latonia passed to the hands of the Kentucky Jockey Club, which also owns and operates the Churchill Downs property at Louisville under the supervision of a state racing commission appointed by the Governor.

Q. What is meant by an invisible tow rope in auto racing? J. N. R.

A. The invisible tow rope is a condition that is created through the vacuum which forms back of the car or object as it passes through the air. It might be likened very much to the tail of a comet, in fact, the principle of both of these phenomena is the same, except that in the matter of the comet, it is visible, while with the moving object, this is an invisible force. A racing car riding in the so-called tow back of another car is pulled along by the rush of air which fills up the vacuum created by the car in front.

LX

STAGE

Q. What is the oldest drama? J. W. E.

A. It is impossible to say definitely which is the oldest drama. Certainly one of the oldest is the Book of Job, which was written either in the last century of Persian rule, or shortly after the conquest of Alexander the Great. The earliest extant Sanskrit play, The Toy Cart, dates probably from the close of the second century, A.D. Chinese drama dates from the Emperor Yuen-Tsung (A.D. 720).

Q. What was Sarah Bernhardt's religion? G. L. C.

A. She was born a Jewess, but was converted to the Catholic faith.

Q. What was the first American tragedy put on the stage? S. T. P.

A. Leicester, a tragedy by William Dunlap, in 1794, is said to have been the first American tragedy played. It is also called Fatal Deception.

Q. What is the best stock company on the stage? J. J. G.

A. The Moscow Art Theater Company is said to be the most distinguished stock company in the world.

Q. When was the first theater built in this country? V. P. W.

A. The first theater in America was built in 1716 in Williamsburg, Va., on a site facing what was then called and is still known as the Palace Green, a narrow park running north from Duke of Gloucester Street, and, in colonial days, extending to the Royal Governor's Palace.

Q. Who gave to Lily Langtry the title, The Jersey Lily? N. B.

A. Sir John Millais, a fellow countryman, painted the actress with a Jersey lily in her hand. By giving to the painting the title, he also gave the sobriquet to the famous beauty.

Q. Who played A Blot in the Scutcheon in America?

A. This tragedy by Robert Browning was played in America by Lawrence Barrett.

Q. Is the actress, Julia Marlowe, an American? A. G. P.

A. Julia Marlowe, whose real name was Sarah Frances Frost, was born at Caldeck, Cumberlandshire, England, August 17, 1870, and was brought to this country by her parents in 1875.

Q. Did Shakespeare take part in his own plays? O. N.

A. It is thought that he did in some. He is said to have played the ghost in Hamlet and Adam in As You Like It.

Q. How many theatres of various kinds are there in New York City? How many are in the so-called Times Square district, the roaring forties? W. O. J.

A. The number of legitimate theatres is 180, and motion picture theatres 377. In the streets from about 38th to 50th, with the avenues and Broadway, the number of legitimate theatres is about 60.

Q. Is Barrymore the family name of Lionel, John, and Ethel Barrymore? A. G. L.

A. In her Reminiscences Ethel Barrymore tells that when her father decided to go on the stage, his plan met with family opposition. It was determined that he should not use the family name of Blythe. He thereupon opened a book and his eyes fell upon the name of Barrymore. This he took for his nom de theatre.

Q. For which painting by Burne-Jones did Lily Langtry pose for two figures? T. T. N.

A. The figure painted full face and the one in profile on two of the lower steps in The Golden Stairway were posed for by the actress.

Q. Why is the part of Alan-a-Dale in Robin Hood always played by a woman? B. L. A.

A. De Wolf Hopper says the role of Alan-a-Dale was written for Jessie Bartlett Davis, famous contralto of The Bostonians; that precedent, and the fact that the score calls for the contralto voice, demand that Alan be entrusted to the fair sex.

Q. What actor played in Romeo and Juliet at Covent Garden at the same time David Garrick was playing Romeo at the Drury Lane Theater? I. E.

A. In 1750, Romeo and Juliet was played at these rival playhouses, David Garrick and Mrs. Bellamy appearing in the title roles at Drury Lane and Spranger Barry and Mrs. Cibber at Covent Garden.

Q. Do wire performers use a round wire or a flat wire? J. R.

A. Slack wire or tight wire artists never use flat wire for stage performances.

Q. When did Edwin Booth make his last appearance on the stage? F. F. M.

A. Edwin Booth made his last appearance on the stage at the Brooklyn Academy of Music on Saturday afternoon, April 4, 1891, in the role of Hamlet.

Q. What is the name of the theatre in Paris that is run by children? F. T. B.

A. The Theatre du Petit Monde is run by children for children. The troupe of players numbers nearly 100.

Q. Which of the Barrymores is the eldest? F. R. T.

A. Lionel Barrymore. He was born in 1878. Ethel was born 1879, and John was born 1882.

Q. Was the play Shore Acres ever known by any other name? E. R.

A. James A. Herne wrote Shore Acres in 1883-'84, and it was first produced as The Hawthorne in Chicago in 1892, taking its present name when it was played in Boston a few weeks later.

Q. To settle an argument, will you please tell me if Al Jolson is white or colored? E. R. J.

A. Al Jolson is a white man. He is an American Jew, born in Washington, D. C.

Q. What was the first minstrel show given in this country? L. M. M.

A. The first negro minstrel company was formed in 1842 by Daniel Emmett, Frank Brown, William Whitlock and Richard Pelham, and the first shows were given in the old Chatham Theatre, New York City.

Q. Has a sequel been written to The Merchant of Venice? H. S. A.

A. St. John Ervine has written a drama called The Lady of Belmont. It begins ten years after the end of The Merchant of Venice and deals with the after lives of Portia, Bassanio, Jessica, Lorenzo and the rest. Shylock is the cen-

tral figure and Portia is made to say in the last act, "Oh, sir, you've won your pound of flesh."

Q. Is there an American actor who was made officer D' Academie du Theatre Francaise? J. A. G.

A. This honor was accorded to James K. Hackett during his recent tour of France.

Q. Of what denomination are the people who give the Passion Play at Oberammergau? J. J. K.

A. The Bavarian villagers who give this celebrated Passion Play are Roman Catholics.

Q. Who wrote the play, Rip Van Winkle, which Joe Jefferson used? G. H. D.

A. The version of the play, Rip Van Winkle, which Jefferson immortalized, was by Dion Boucicault.

Q. How is the figure of Christ suspended on the cross in the Oberammergau Passion Play?

A. Anton Lang, who has the part of Christus, wears a stout belt under his loin cloth. A hook is fixed in the cross, and the belt passes over it. Mr. Lang also curves his fingers over the nails in the cross piece. As he hangs suspended for 20 minutes, the physical strain is very severe. A bag of wine, secreted in the loin cloth and punctured by a soldier, provides the red stain when the Christus is pierced by the spear.

Q. How many appearances did Kate Claxton make in The Two Orphans? C. C.

A. She created the part of Louise, the blind girl, and played it 4,000 times. The version of the play controlled by Miss Claxton made her a substantial fortune. The Griffith film success, The Orphans of the Storm, was made from this play.

Q. Was the actor, Richard Mansfield, a native of the United States? C. M. E.

A. Richard Mansfield was born in Heligoland and entered the theatrical profession in England.

Q. Was Drinkwater's Abraham Lincoln produced in the United States before it was played in England? E. A. P.

A. The play, Abraham Lincoln, was written by an Englishman and played in England before it was brought to this country.

Q. In which one of Shakespeare's plays does the character Cobweb appear? J. F. S.

A. Cobweb is one of four fairies that appear in Shakespeare's Midsummer Night's Dream—first in act 3, scene 1, and later in act 4, scene 1.

Q. What is the difference between a farce and a comedy? I. M. C.

A. A farce is a dramatic piece of a broad character and the difference between it and comedy proper is one of degree and not of kind. The aim of both is to excite so by comparatively faithful admirth, but while the comedy does herence to nature and truth, the farce assumes a much greater license and may make use of any extravagance or improbability that may serve its purpose.

Q. What was the play in which Charlie Chaplin appeared when he came to the United States? L. B.

A. Charles Chaplin came to the United States from Great Britain in a comedy on the American vaudeville stage known as A Night in an English Music Hall.

Q. Did Eleanor Robson ever play Juliet? C. E. R.

A. Eleanor Robson played Juliet to Kyrle Bellow's Romeo in 1903.

Q. When was the play, Secret Service, produced? A. K. K.

A. Secret Service was first staged in 1896.

Q. When the term right center is used in directions for stage settings, does it refer to the actor's right as he faces the audience, or the spectators' right? N. G.

A. The directions are given from the spectators' point of view.

Q. Are the comedians billed as The Marx Brothers really brothers? F. T. C.

A. These comedians are brothers. They are grandsons of a man who was at one time the leading magician of Germany. The Marx brothers number five, but one is not on the stage.

Q. Please give a biography of Schildkraut, the actor. J. F. J.

A. Joseph Schildkraut was born in Vienna, Austria, March 22, 1896. He is the son of Rudolph, a famous old actor. Schildkraut has been on the stage for years and is said to have played in every capital in Europe and in perhaps every play ever produced in the leading theatres. He also made some pictures abroad. He has made a success in New York in Liliom.

Q. In what play did Ethel Barrymore speak the lines, "That's all there is—there isn't any more"? R. V. W.

A. These lines were in a play called Sunday, in which Miss Barrymore appeared in 1906. Since then she has used them as a final line for a curtain or after dinner speech, until they are identified with her. Sunday was written by Horace Hodges and T. Wygney Percyval, and produced in London in 1904.

Q. Where did the Punch and Judy show originate? J. M. R.

A. The puppet show of Punch and Judy derives its origin from the Neapolitan Punchinello, but many of its features are purely English. Puppet shows, however, were common among the Greeks, from whom the Romans received them.

Q. Why is Dante's Divine Comedy called a comedy? K. W.

A. The term comedy is sometimes used as in this case, to portray truth without leaving an unpleasant impression. It sets forth the fact that the poem does not have a tragical ending.

Q. What is the Comedie Francaise in Paris? H. C. P.

A. The Comedie Francaise is the official name of the national theatre of France which is supported by public funds for the purpose of advancing dramatic art. It was long known as La Maison de Moliere, or Moliere's Theatre.

Q. When did De Wolf Hopper begin his stage career? F. T. S.

A. He made his debut in Our Boys in 1879, at the age of 21.

Q. What is said to be the longest part in all drama? A. D.

A. Cyrano de Bergerac.

Q. What per cent of the audiences in New York theatres are out-of-town visitors? H. J.

A. It is estimated that 25 per cent of the people who attend the New York theatres are not residents of New York City. Last year over 16,000,000 programs were distributed to the theatres' patrons. So presumably about 4,000,000 is a conservative estimate of the number of times New York visitors attended the theatre.

Q. What is Ed. Wynn's real name? M. C.

A. His name is Edwin Leopold.

Q. Who are the Irish players? A. L. H.

A. The Irish players are a group of actors, organized for the purpose of producing plays written by the Irish or on Irish subjects. As one writer says, "Race consciousness is to be stirred into articulate form by the plays produced by

this group." The Irish Literary Theatre inaugurated the drama of the Celtic Renaissance.

Q. What was the price of admission to the London theatres in Shakespeare's day? J. C. D.

A. The price of admission to the theatre in the time of Shakespeare varied. In 1579 admission could be obtained for one penny and two pennies. In 1596 there was apparently a regular scale applicable to all public entertainments. One penny was paid at the gate, another at the entrance to the building, and a third for quiet standing. From this time the prices began to rise rapidly, and by 1604 there were both six penny and twelve penny seats.

Q. When was Nell Gwyn on the stage? C. C. K.

A. She lived from 1650 until 1687. Her first known public appearance was in 1665. She retired from the stage in 1682.

Q. Which is Shakespeare's shortest play? R. T. L.

A. Macbeth is Shakespeare's shortest play and is evidently much mutilated.

Q. Were there child actors in Shakespeare's day? A. H. D.

A. Child actors played and sang at Shakespeare's own theatre and also at Blackfriars.

Q. When did the first marriage of an actress into the peerage occur? J. T. G.

A. In 1722 Anastasia Robinson, operatic singer, married the third Earl of Peterborough.

Q. What did Barnum promise to pay Jenny Lind when she sang for the first time in America? G. A. M.

A. Jenny Lind was engaged by P. T. Barnum for 150 nights at $1,000 a night. Barnum provided the orchestra.

Q. Please give a short sketch of Mrs. Fiske, the actress. C. F.

A. Minnie Maddern Fiske was born at New Orleans in 1865. She went on the stage when still a child and at 15 was a star under the name of Minnie Maddern. During this period she played with John McCullough, Laura Keene, etc. In 1890 she married Harrison Grey Fiske and retired for five years. She then returned to the stage in her husband's play, Hester Crewe. In 1901 she opened the Manhattan Theatre and produced a number of plays herself. She did much to popularize Ibsen in America.

Q. Who is the actor who has impersonated Abraham Lincoln in the movies? S. T. G.

A. Frank McGlynn appeared as Lincoln in the Drinkwater play and motion picture. George Billings impersonated Lincoln in the picture, The Man Without a Country, and Charles Edward Bull played the part of Lincoln in the motion picture, The Iron Horse.

Q. Why is the waiting room for the use of actors and actresses called the green room? L. T. T.

A. Stage-glare caused by the artificial lighting of a theatre affects the eyes of actors and actresses. The walls of the waiting room used by them during the intervals of a play were colored green because this is a good antidote to the affection of the eyes. Hence the name.

Q. When did Joseph Jefferson first play Rip Van Winkle? D. H.

A. Joseph Jefferson first appeared in this famous play on September 5, 1865. His last appearance as Rip occurred at a Saturday matinee May 2, 1904.

Q. What is the difference between light opera and comic opera? Which is Blossom Time? C. W. B.

A. Comic opera is a literal translation of the French opera

comique, which is opera having a happy ending and in which the dialogue is spoken. It is not necessary that the piece introduce any really comic scenes. Light opera or operetta is generally of buffo character. Originally operas were of one act only. The series of Gilbert and Sullivan operettas set the fashion for pieces of the kind in two acts. Blossom Time was played as a comic opera.

Q. What Shakespearean character has the most lines to speak? A. M. P.

A. Professor Rolfe gives the following figures: Hamlet, 1,569 lines; Richard III, 1,161; Iago, 1,117. Henry V, as both King and Prince, speaks 1,987 lines, and Falstaff, in both Henry IV and Henry V, 1,895 lines.

Q. Tell something of Chauncey Olcott's career. C. H. E.

A. He was born on July 21, 1860, in Buffalo, N. Y. His early stage engagements were with various minstrel companies. After this came comic opera work in England. He then succeeded W. J. Scanlon as star in Irish musical dramas, playing leading roles in the United States and England.

Q. Has an amateur theatrical club a right to produce a copyrighted play provided no admission is charged to the performance? C. P. T.

A. No performance of a copyrighted play may be given without permission, even though the performances are free to the public. All British plays may be publicly performed without a permit, if there be no charge for admission, unless they have been copyrighted in the United States, in which case the domestic law applies.

Q. Did Shakespeare write a play entitled, All is True? T. L. C.

A. It is said that Shakespeare wrote such a play, but that the burning of the Globe Theatre in 1613 while the piece was being played, destroyed the manuscript. Probably parts of All is True were incorporated in Henry VIII.

Q. What character was the predecessor of the clown and fool upon the English stage? D. H. A.

A. The character was known as the Vice and represented the leading spirit of evil in any play, sometimes Fraud, Covetousness, Pride, Iniquity or Hypocrisy.

Q. Where was Pavlowa trained as a dancer? A. G. B.

A. Madam Pavlowa, the dancer, was born in Russia, trained at the Imperial School of Dancing at Leningrad and later by Cecchetti, Director of the Imperial School of Warsaw, who devoted three years to her training, excluding all other pupils. Her first visit to America was made in 1910.

Q. Do many actors and actresses of the stage succeed on the screen? M. L. J.

A. Few screen successes come from the stage and vice versa. Clayton Hamilton says that film and stage technique are separate and distinct. The tempo of acting for the camera is much slower and more deliberate than acting for an actual audience; every movement, gesture and detail of facial expression must be proportioned more delicately and reticently. The cold, searching eye of the camera magnifies what it sees and a human face in a close-up may measure fifteen feet from top to bottom. The casual batting of an eyelid may sweep through two or three feet of film. Pictures also place a high valuation on youth. Few women learn to act on the stage until they are over thirty, but on the screen where every line is greatly magnified, most women look old after they are twenty-five. Devotees of the spoken drama will go to hear a Sarah Bernhardt at eight-and-seventy, but the clientele of the movies demands fresh faces.

LXI

STATES, COUNTIES AND CITIES

Q. Is St. Augustine the oldest city in America? S. N. L.

A. The oldest city in the new world is Mexico City, which antedates St. Augustine by more than two centuries. Mexico City dates from about 1325 A.D., when the Aztecs, looking for a favorable site, saw perched on a cactus an eagle devouring a snake. The omen was interpreted to mean that this was to be the site of their city.

Q. What is the smallest county in the United States? G. B.

A. Bristol County, Rhode Island, is the smallest, having an area of 24 square miles.

Q. In what State do the most people live in the country? T. H. C.

A. Texas has the largest rural population, 3,150,359 people living in the country.

Q. Which State has the largest number of farms? A. M. D.

A. In 1925 Texas led with 460,395 farms, while North Carolina was second with 283,492.

Q. Name the towns that are on state lines and take their names from this fact. N. H.

A. Some such towns are: Arkana, Louisiana; Calexico, California; Arkoma, Oklahoma; Kentuck, W. Va.; Tennga, Georgia; Georgiana, Alabama; Texanna, Oklahoma; Texhoma, Oklahoma; Kenova, W. Va.; Mason and Dixon, Pa.; Texico, New Mexico; Texola, Oklahoma; and Texarkana, Arkansas.

Q. How many cities in the United States have city managers? A. D.

A. The latest available figures show that 258 American cities have the city manager system of government by charter and 84 by ordinance, a total of 1342.

Q. How many of the names of the States are derived from Indian sources? C. C.

A. Twenty-two of the States have names of Indian origin. They are: Alabama, Arkansas, Connecticut, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Mississippi, Missouri, Nebraska, North and South Dakota, Ohio, Oklahoma, Tennessee, Utah, Wisconsin and Wyoming.

Q. In what county is the geographic center of New York State? W. C. N.

A. The Geological Survey says the geographic center is in Madison County, 6 miles south—southeast of Oneida.

Q. What city has the longest street railway system that is city-owned? M. J. R.

A. Detroit, Michigan, has the distinction of owning and operating the largest system of municipal railways in the world.

Q. Why is Canal Street, New Orleans, so-called? J. W. W.

A. Canal Street, New Orleans, derives is name from the canal which formerly traversed it. The waterway was intended to unite the Mississippi with Lake Pontchartrain. The canal had been

partially filled in by 1838 and completely filled in by 1878. The filling in of the canal created a neutral zone along the center of the street, which is now used by the street car tracks.

Q. How many counties are there in the United States? E. V. R.

A. The Bureau of the Census says that in 1920 there were 3,043. Since that time 30 have been added. There are also 22 independent cities and one national park in addition, making 3,096 such divisions of the United States.

Q. What State has the most cities? W. S. H.

A. The State of Pennsylvania has more towns or cities of a population exceeding 5,000 than any other State.

Q. Were Spanish land grants in California honored by the United States Government? W. H.

A. The concessions of land granted to residents of California by both the Spanish governors and the Mexican governors were recognized and confirmed by the United States. They amounted to approximately 9,000,000 acres.

Q. What cities in the United States were planned to be capitals? R. J.

A. Only three cities in the United States were planned for capitals. Those cities are Raleigh, N. C., Indianapolis, Ind., and Washington, D. C.

Q. What town in Indiana or Ohio has a tree growing in the tower of the courthouse? C. B. K.

A. Greensburg, Indiana, claims this curiosity. The courthouse with its tree-topped tower is visible from railway trains passing through the town.

Q. At the rate New York City is growing how big will it be in the year 2000? A. R. N.

A. According to estimates of those who are preparing the Regional Plan of New York and its environs the city will have a population of about 18,000,000 seventy-five years from now and what is known as the metropolitan area will have a total of 29,000,000 to 30,000,000.

Q. Which State has the greatest extent of navigable water? W. S.

A. Louisiana has this distinction, and she possesses also the greatest area of alluvial land.

Q. What city is the fishing capital of the United States? W. T. L.

A. Boston is considered the fishing center of this country and is second only to Grimsby, England, as the world's leading fishing port.

Q. What city in this country is known as the Modern Rome? N. S.

A. Richmond, Virginia, which was originally built on seven hills, was often called the Modern Rome.

Q. When did Providence become the only capital of Rhode Island? A. J. H.

A. There were two seats of government in Rhode Island until 1900, one session of the legislature being held in Newport each term. Since 1900 Providence has been the only capital.

Q. Has any State more foreigners than natives? M. M. C.

A. No State in the Union has a greater percentage of foreign-born than native American population. The States having the largest proportion of foreigners are New York, Pennsylvania, Illinois and Massachusetts.

Q. Why was the upper peninsula added to the State of Michigan? McN.

A. Both Michigan and Wisconsin were originally part of the old Northwest Territory. The ordinance of 1787 provided for the division of this territory into five States, three south of an east and west line

drawn through the southern bend or extreme of Lake Michigan, and two north of it. If this ordinance had been adhered to strictly Ohio, Indiana and Illinois would have had no frontage on the Great Lakes. These States, therefore, induced Congress to violate the provision and grant them harbors. When Michigan was formed there was much dissatisfaction that Ohio had been given Maumee Bay and the site of Toledo, and before Wisconsin was organized Congress awarded to Michigan the upper peninsula as a recompense for having lost Maumee Bay to Ohio, and a narrow strip on Lake Michigan to Indiana.

Q. Was St. Louis made an independent city before Baltimore was? T. M. D.

A. St. Louis was made a distinct and separate political subdivision of the State of Missouri in 1876 by act of the Legislature which divorced it from St. Louis County. Baltimore was separated from Baltimore County in 1852.

Q. What State is called the State of the three C's? B. H.

A. Arizona is sometimes known as the State of the three C's — Copper, Cotton, and Cattle. A fourth C is frequently added for Climate.

Q. Where is the place in New York called Tin Pan Alley? M. B.

A. Tin Pan Alley, housing many musical composers and those interested in bringing out popular songs, is a nickname applied to West 46th St., between Broadway, 7th and 8th Avenues.

Q. What is the final authority as to the spelling of the name of a town or city? A. J. G.

A. The United States Board on Geographic Names, composed of fifteen members, representative of the Executive Department, the Government Printing Office and the Smithsonian Institution, is invested with power to render final decisions, binding on all departments of the Government, in settling the names of stations and places throughout the United States and Alaska, and to fix the spelling of the same in accordance with local usage. The board was instituted in 1890 by President Harrison. A separate board exists for the Philippine Islands.

Q. What was West Virginia called before it was separated from Virginia? J. M.

A. It was known as the Trans-Alleghany Region of Virginia and was admitted to the Union as a separate State June 20, 1863.

Q. Why was the h added to the name Pittsburg? T. P.

A. The addition of the letter h in the spelling of Pittsburgh goes back to the re-naming by General Forbes of what had been Fort Duquesne. With the departure of the French from Fort Duquesne, which they fired before leaving, the first thought of the English conquerors was to re-name the place in honor of William Pitt, at that time — 1758 — prime minister of England. The English took possession November 25, 1758. While Forbes' spelling of the name has been represented variously as Pitts-Borough and Pittsbourgh he always added the h.

Q. Why was the State of Maine so-called? E. L. C.

A. Maine was called "The Province or Countie of Mayne" in the charter granted by Charles I in 1639, because it was regarded as a part of "the Mayne Lande of New England."

Q. What cities are growing the fastest, F. R.

A. The percentage of increase in size for a period of ten years was shown in the 1920 census to be greatest in Grand Rapids, Michigan; Hamtramck Village, near Detroit; Miami, Florida; Wichita Falls, Texas; Norwalk, Connecticut;

Tulsa, Oklahoma; and Bethlehem, Pennsylvania.

Q. Is there any article in the character of statehood of Texas that grants privileges not given to other States? J. B. F.

A. The special privileges which are accorded to Texas by its constitution are the reserved right to all public lands of the State, and the right to sub-divide into not more than five States.

Q. Which city was first to have a city manager? M. P. L.

A. The city manager plan was first tried in Staunton, Virginia, in 1908.

Q. Why is Maine colder than France, although about the same distance from the equator? S. B. N.

A. Ocean currents cause the difference in climate. Off the coast of Maine there is a cold current coming from the polar regions and flowing southward. It cools the air and makes the climate colder. Off the coast of France is the Gulf Stream. This gives a warmer climate.

Q. Why is New York City called Gotham? M. F.

A. Gotham was the name of a town in Nottinghamshire, England, the inhabitants of which, about 1200, were ridiculed for simplicity and short-sightedness and were later termed in derision "the wise men of Gotham." Washington Irving in his book Solomon Gundy applies the name Gotham to New York satirizing the short-sightedness of many of the inhabitants.

Q. Give a list of the cities in the United States that have adopted the Commission plan of Government. E. E. B.

A. More than 300 cities of the United States have adopted commission form of government, notably: Buffalo, New York; New Orleans; Jersey City; Portland, Oregon; St. Paul; Oakland; Memphis; Des Moines; and Galveston. Of the larger municipalities which have adopted the plan, only two, Denver, and Salem, have abandoned it.

Q. Which State has the most public land? G. R.

A. Nevada has the largest remaining unbroken area of unappropriated, unreserved public lands. Out of a total State area of 70,000,000 acres, it contains more than 52,000,000 acres of government-owned land, or 28 per cent of the total 186,000,000 acres of remaining public domain.

Q. How large must a community be to become a city? R. S. P.

A. The size of population is not a determining factor in regard to a city. A city is a municipal corporation possessing the power to sue and to be sued, to acquire, hold and dispose of property, to enact ordinances, to raise money by taxation, and to exercise the right of eminent domain.

Q. Why was Tennessee called the Volunteer State? M. A. H.

A. From a very early period in its history Tennessee was so-called because of the prominence of some of its sons in the early wars of the United States, and because the inhabitants of the State were always in the fore-front of action. During the War with Mexico when President Polk called for 2800 soldiers from Tennessee, 30,000 volunteers promptly responded. It was at this time that Tennessee confirmed the title of Volunteer State.

Q. Was it ever proposed to name a state for Thomas Jefferson? G. D. T.

A. In 1859 delegates met and adopted a constitution for a State of Jefferson, with an area somewhat larger than Colorado, and the opposition held a second convention and established the Territory of Jefferson which later became the Territory of Colorado.

Q. What streets in New York City bound Greenwich Village? T. E. K.

A. The boundaries of Greenwich Village extend from North River to West 14th Street and along the line of the Old Minetta Brook. Originally the village was of a much smaller compass consisting of a few houses located between the old Indian village and the present Christopher Street.

Q What is the highest city in the United States? J. K.

A. Leadville, Col., is the highest city, being 10,140 feet above sea level. There are other settlements that have greater altitudes, but they are not classed as cities.

Q. Why was Rhode Island so-named? J. H. G.

A. There seems to be a difference of opinion as to why the State of Rhode Island is so-called, but it is fancied that it resembled the Island of Rhodes. "Isle of Rhodes" was the name chosen by the General Court of the Colony in 1644.

Q. To settle a dispute, please inform us what city in the United States was the first to own and operate a gas plant? F. L. L.

A. Wheeling, W. Va., is credited with having the first municipal gas plant, the policy of municipal ownership being instituted in 1851.

Q. What three large cities are the highest in the United States? R. L. R.

A. The three highest cities in the United States with over 200,000 population are: Denver, Colo., 5,279 feet; Atlanta, Ga., 1,050 Minneapolis, Minn., 840 feet.

Q. Why is the Latin Quarter of Paris so-called? S. N. W.

A. This is the section of the city in which the University of Paris is situated. Education in the university was formerly given in Latin, and the students used to go about the town singing their songs in Latin thus giving rise to the name which persists to the present day.

Q. When the United States acquired Florida how much was paid in settlement of claims and how much public land was acquired? P. W.

A. By the 11th article of the treaty between the United States and Spain, the United States agreed to make satisfaction to her own citizens for their claims on Spain to the amount of $5,000,000. The actual sum paid however, was $6,489,768. By the treaty, 59,268 square miles of territory were added to the national public domain.

Q. For whom was Constantinople named? H. O.

A. Constantinople derived its name from Constantine the Great who removed the seat of the Eastern Empire there, dedicating it May 11, 330.

Q. Are there any States in the United States that could be entirely self-supporting? C. G.

A. It has been stated that of all the States in the Union, Missouri is the only one that could be entirely self-supporting over any considerable period of time. Economically, this State partakes of the characteristics of both north and south. It is strong agriculturally, timber-wise, horticulturally and industrially.

Q. Is there a city by the name of Brass? B. F. G.

A. Brass is the name of a town in British Nigeria, West Africa.

Q. What is the name of the hill in Paris from which the boulevards radiate, similar to the manner in which the avenues radiate from Capitol Hill, Washington, C. C.?

A. The name of the hill is Place d' Etoile (place of the star). This hill commands the Seine, which can best be protected from this point.

LXII

TERMS AND EXPRESSIONS

Q. When was the term flapper first applied to young girls? K. H.

A. The word flapper has been in use in England for close on two centuries. The term originally implied young ducks not yet able to fly. Early in the eighteenth century growing girls were first called flappers from a fancied resemblance to young ducks.

Q. Why is one who is admitted or transported on a pass called a deadhead? T. R. L.

A. Deadhead is the literal translation of the Latin phrase caput mortuum, which was much used by the old chemists to denote the residuum of chemicals when all their volatile matters had escaped; hence the word is figuratively used of anything from which all that rendered it valuable has been taken away. Spectators or passengers who do not pay are not valuable, from a revenue standpoint.

Q. Just what is meant by a four-flusher? S. J. S.

A. Four-flusher is a slang term applied to one who bluffs. It is derived from a poker term—a four flush or bobtail flush being a worthless hand with which a bluffer may try to win a pot.

Q. Did Grover Cleveland coin the phrase, "A public office is a public trust"? P. G. T.

A. Cleveland did not coin the expression. He many times gave expressions to the sentiment, but it was K. C. Hudson who phrased it in axiomatic form.

Q. Kindly let me know the meaning of Say it with flowers. L. T. G.

A. This is merely a slogan calling attention to the fact that flowers are very appropriate gifts on all occasions.

Q. What is the meaning of the expression hallmark? D. L. V.

A. A hallmark is the official mark of the Goldsmiths Company of England stamped on gold and silver articles at Goldsmith's Hall in London to attest their purity. Hence, the term came to imply any mark used for the same purpose by assay officers in the United Kingdom.

Q. Who first used the expression baseball fan? B. N. S.

A. In the eighties, Chris Von der Ahe, the owner of the St. Louis Browns, called Charles Haas the greatest fanatic in baseball that he had ever seen. Newspaper men began to call these enthusiasts "fan-atics", and within a short time called them merely fans.

Q. What is meant by the adrenalin type of person? W. V.

A. There are certain men and women who surprise others by their power apparently to endure and perform beyond the ordinary capacity. Scientists are of the opinion that these people are able to draw stored energy from certain glands, and they are sufficiently numerous to constitute a type to which the name adrenalin type has been given.

Q. Where did the word booze come from?

A. The word is said to be an English adaptation or corruption of the Turkish word buzek which is used in Syria to include sherberts and similar iced drinks. Another suggested derivation is from the German word bausen which means to drink.

Q. What is the origin of the expression gone to the Devil? A. C. R.

A. The Devil was originally the name of a noted public house located at No. 2 Fleet Street, near the Temple Bar in London. When the lawyers in the neighborhood went to dinner they were accustomed to hang out a sign on their doors "Gone to the Devil" so that those who wanted them might know where to find them.

Q. What is the origin of the expression "Whom the gods would destroy, they first make mad"? E. B.

A. This is but one version of a familiar saying. The oldest form of it is Maxim 911 of Publilius Syrus—"Whom Fortune wishes to destroy she first makes mad".

Q. Why is the term Sophomore used for students in their second year of college or high school? J. A. R.

A. It is a corruption of the earlier sophimore due to the supposed derivation from two Greek words, one meaning wise and the other meaning foolish; alluding to the air of wisdom assumed by students after the freshman year is concluded.

Q. What is the meaning of the name Tutankhamen? H. L. W.

A. An interpretation of it is the living image of Amon.

Q. Will you please tell me the origin of the expression, "a chance for his white alley"? W. H. F.

A. This expression means to afford a chance to recoup losses, or to play fair. It is derived from the game of marbles, an alley being a large and choice playing marble.

Q. Who first spoke of the multitude as the great unwashed? E. L. C.

A. This expression was used by Sir Walter Scott and is attributed to Edmund Burke.

Q. What is the origin of the expression, "We who are about to die, salute thee?" J. B. G.

A. Gladiators who entered the ring as participants in gladiatorial contests saluted the Emperor Claudius with this phrase.

Q. How did the term French leave originate? S. T. I.

A. Most authorities believe that the term can be traced to the eighteenth century French custom of withdrawing from crowded assemblies without taking leave of the host and hostess. Another explanation is that the word French is a corruption of the word frank, meaning free.

Q. What is the origin of the term A-1? M. G.

A. In Lloyd's Register of British and Foreign Shipping the character of a ship's hull is designated by letters and that of the anchors, cables and stores by figures. A-1, therefore, means that the hull is first rate and also the anchor, tables and stores.

Q. How did Esperanto get its name? C. C. H.

A. Esperanto received its name from the Russian physician Dr. Zamenhof. He first published a treatise on the subject in 1887, signing it Dr. Esperanto, meaning hopeful.

Q. Why is whiskey called hooch? K. L. K.

A. The word is a contraction of the word hoochino. This is an Alaskan word which is applied to rum distilled from sugar and flour.

Hoochino in turn is derived from the name of the native makers.

Q. Who is the meaning of Erin go Bragh? J. R. K.

A. It is the old war cry of the Irish. It means Ireland for ever.

Q. What is the meaning of Kismet? K. M. I.

A. Kismet is the Turkish form of the Arabic quismat from Quasama to divide, meaning Fate or Destiny. It is used by Mohammedans to express their belief that everything which happens was preordained and therefore inevitable.

Q. What is the origin of the phrase Passing the buck? A. E.

A. Buck in various card games is a counter or other object placed on the tabled before the dealer and passed by him to the next dealer to present mistakes as to the position of the deal; also, in poker, a marker sometimes put into the jack pot, another jack pot being in order when the deal passes to him who holds the buck.

Q. What was the origin of F. F. V., as applied to southerners? S. A. I.

A. F. F. V's, First Families of Virginia, was a jocular term applied in the North, both before and during the War, to the Southern aristocracy in general, and its exact origin is unknown.

Q. Why is pin money so-called? N. V. G.

A. The expression originally came from the allowance which a husband gave his wife to purchase pins. At one time pins were so expensive that only the wealthy could afford them. The manufacturers of pins were permitted to sell them only on January 1 and 2 of each year, and when those days came around the women whose husbands could afford it secured pin money from them and went out and got their pins.

Q. What does Dail Eireann mean and how is it pronounced? C. K. H.

A. Eireann means Irish and Dail means convention or meeting. Dail is pronounced nearly as the English word doll is, and Eireann practically like Erin.

Q. What is the meaning of Kiwanis? D. J.

A. Kiwanis is a coined word derived from a Cherokee phrase meaning we trade.

Q. Why is Cupid called Dan Cupid? C. C. deB.

A. The title Dan is one of respect and of honor, corresponding to master or sir. It is applied, for example, to Cupid and to such a poet as Chaucer.

Q. What does B'nai B'rith mean? J. P. E.

A. The expression means Sons of the Covenant. This association of German Jews has for its purpose the moral improvement of its members. It was established in the United States in 1843.

Q. What do the initials BVD on men's underwear stand for? E. V.

A. The initials form a trade name which has been derived from the name of the manufacturers—Beverley, Voris and Day.

Q. How came the Navy men to be called gobs? W. H.

A. The appellation Gob is of Chinese derivation from the Chinese word meaning sailor. The word came into use when the fleet was in the Far East.

Q. What does the date A. L. 5922 mean? W. B. S.

A. A. L. prefixed to a given date stands for After Light and the dates stand for the year since the creation, according to Masonic conception. This is very similar to the date according to Jewish chronology.

Q. What does Shenandoah mean? L. A. H.

A. Its English tranlation is Daughter of the Stars. The valley which bears this name is famous in American history as a battle ground of the French and Indian Wars; as a point from which Daniel Morgan conducted operations against the British in the Revolution; and later as highly strategic territory in the Civil War. One town in the valley—Winchester—is said to have changed hands seventy-two times during the Civil War.

Q. Why are people from the United States known as Americans when North America includes other countries? G. A. T.

A. The habit of calling inhabitants of this country Americans, probably arose from the fact that any other distinctive title is awkward. Canada lends itself easily to the forming of the noun Canadian; Mexico to Mexicans. Citizens of the United States of America are most conveniently designated as Americans.

Q. What does I. C. W. S. mean? R. W. N.

A. It means International Co-operative Wholesale Society. For a couple of years a committee of the International Co-operative Alliance has been working on the question of International wholesaling. Last Spring this committee sent to each national wholesale a tentative set of by-laws for an International Co-operative Wholesale Society and twenty-six national wholesales signed and returned them to the central office. At the International Congress in Ghent, Belgium, last year, the new International Co-operative Wholesale Society was officially set into motion.

Q. Should the abbreviation for Pennsylvania be Pen., Penna., or Pa.? J. E. S.

A. The Post Office Department says that Pa. is the correct abbreviation for the word Pennsylvania.

Q. What is the meaning of a c with a circle around it? A. J. A.

A. A c enclosed in a circle is an abbreviated form of the copyright notice used by provision of the Copyright Law upon photographs, pictures, and similar works of art, on which the complete notice would detract from the beauty of the picture.

Q. What is meant by P. B. X. which often appears in wanted columns for operators, stenographers, etc.? J. S.

A. P. B. X. is a term applied to a telephone switchboard and means private branch exchange.

Q. What is meant by an A. B. C. statement? I. L. T.

A. These initials stand for Audit Bureau of Circulation and such statements are sworn to by the publishers making them.

Q. What is the derivation of the name Patagonian? M. L. W.

A. It is supposed to be derived from the Spanish Patagon meaning a large foot in allusion to the large footprints found by the first explorers. The Patagonians were a tribe of tall Indians considered by some authorities to be the tallest known race.

Q. Who was Peter Funk? S. H. R.

A. While there may have been men in real life named Peter Funk, the name is generally associated with the custom of using it for a person employed at an auction to offer bogus bids in order to raise the price.

Q. What is the derivation of the word Ouija? F. M.

A. It is believed to be a combination of the French oui and the German ja, both words meaning yes.

Q. Was the expression "a scrap of paper" first used during the World War? W. W. S.

A. No, it was used as early as 1878. On January 17th of that year Baron Jomini, the Russian Minister, used these words in a letter to the Rumanian Foreign Minister in reference to the passage of Russian troops through Rumania.

Q. How did the term parlor car originate? J. P.

A. It is said that Jenny Lind applied the term in a joking way to a car that was specially prepared for her comfort when she made her tour of the United States from 1850 to 1852.

Q. Why did the soldiers call England blighty? N. M.

A. This originated with British Soldiers in the Indian Service. In an Indian vernacular, Bilayati stands for Europe. It is a corruption of the pure Urdo word Wilayat.

Q. What is the double standard? W. W.

A. The term is used both in ethics and in money. In the first case, it refers to what is known as the double standard of morals, whereby certain privileges are allowed to men that are not permitted to women. In money the double standard is a monetary standard based on both gold and silver, as the material of the circulating medium, distinct from the single standard based upon either gold or silver.

Q. How long have gangs of French robbers been called Apaches? W. G.

A. The Apaches of Paris were so named by newspaper men about 1903. Two men named Manda and Lecat loved the same woman, who was named Casque d'Or. She bestowed her affections upon Manda, whereupon a quarrel arose between the two men. Manda was shot and killed by Lecat. The quarrel was taken up by Manda's friends and followers. Soon two large bands were organized and their quarrels became so violent that the name Apache was given them.

Q. What is the derivation of the term sabotage? W. H. F.

A. Sabotage is the term applied to the wilful and underhanded destruction of machinery by workmen in industrial disputes. The word is French, derived from sabot which means a wooden shoe, from the fact that the workmen in France were accustomed to throwing their wooden shoes into the machinery to put it out of order.

Q. What is the origin of the expression blueblood? C. W.

A. Blueblood is a translation of the Spanish sangre azul attributed to some of the oldest and proudest families of Castile, who claimed never to have been contaminated by Moorish, Jewish, or other foreign admixture. The expression probably originated in the blueness of the veins of people of fair complexion as compared with those of dark skin.

Q. What is meant by the establishment of the port? A. H. R.

A. The Naval Observatory says high water occurs 50 minutes later each day, on an average. High water follows the transit of the moon across the meridian of any place by a certain interval, which is known as the establishment of the port. This interval is approximately the same throughout the year for any one place, but differs widely for different places.

Q. Who called Boston the Hub of the Universe? E. B.

A. The term was applied jestingly to the State House of Boston by Oliver Wendell Holmes in one of his essays, as the center of a self-satisfied community. The expression is now popularly applied to the city as a whole which re-

gards itself as superior in wisdom and culture.

Q. Why are theatre passes called Annie Oakleys? J. W.

A. Theatre passes always have two holes punched through them and the nickname for passes is an allusion to the accuracy of Annie Oakley's aim, for she often made a double perforation of a target with two shots.

Q. What is the origin of the expression "There is something rotten in Denmark"? A. O.

A. It is an adaptation from a similar sentence used in Shakespeare's "Hamlet"—"Something is rotten in the State of Denmark." Hamlet, the Prince of Denmark, is led to make this remark when he suspects that his father was murdered.

Q. Where did the nickname Brother Jonathan as applied to Americans originate? E. P.

A. A cherished Connecticut tradition asserts that the national nickname Brother Jonathan is derived from the fact that General Washington used this sobriquet in speaking of Governor Jonathan Trumbull of that State, who was one of his most trusted advisers.

Q. Did the expression carry on in the same sense as going forward bravely originate during the World War? Years ago, in the United States, at least, it meant to behave badly. H. W. S.

A. The expression carry on in the sense of continuing, maintaining, or keeping up a certain line of conduct is found in English literature as f r back as 1606. As you stated, however, it is also used colloquially in the sense of behaving badly.

Q. What is the origin of the term Bill of Fare? C. T.

A. It is said that the elector Henry of Braunshiweig attracted general notice at a state dinner during a meeting of electors in Regensburg in 1489 by referring to a long list before a dish was ordered. In reply to an inquiry the elector spread the paper out and it was found to contain a list of dishes prepared for the occasion. The idea so pleased the assembly that each of them had it introduced into his household.

Q. What is the origin of the expression turning the tables? E. L. R.

A. The expression turning the tables is a metaphor arising from the notion of players of games reversing their positions at the board.

Q. Who coined the phrase almighty dollar? J. W. C.

A. It is attributed to Washington Irving. In The Creole Village he says: "The almighty dollar, that great object of universal devotion throughout our land, seems to have no genuine devotees in these peculiar villages."

Q. What is the origin of the expression key to the city? C. B. S.

A. The key to the city is simply a figurative expression. In ancient times when cities were walled and approach was possible only through huge gates, it grew to be the custom to honor distinguished visitors by giving them the key to the gates of the city in token of the fact that the visitor was a guest of the city.

Q. What was the origin of the expression a year and a day?

A. Under the rule of common law, a fraction of a day was not recognized and the last day of any given period of time was considered completed for legal purposes as soon as it began. Therefore, to provide for the actual expiration of a full calendar year it was necessary to add a day.

Q. What is meant by the Socratic method of reasoning? N. U. R.

A. This term applies to the

method in argumentation of asking questions by answering which the adversary unconsciously makes fatal admissions. It is so called because it was much resorted to by Socrates.

Q. What is civil death? G. D.

A. Civil death is a legal term, applied to a person who on account of crime has been convicted and sentenced to life imprisonment, thereby losing all civil rights and considered, in law, dead.

Q. How did the expression the four hundred originate? J. D.

A. The four hundred is defined as the exclusive social set of a city. The phrase owes its origin to Ward McAllister, a New York society leader, who gave it as his opinion about the year 1889 that only that number of people were actually in society in New York City.

Q. What is the origin of the expression dogs of war? R. W.

A. It is probably based on the actual practice of the ancients using dogs in warfare. Both the Greeks and the Romans used them for defensive and offensive purposes and for maintaining communication on the field of battle. War dogs are mentioned by Plutarch and Pliny, and Strabo describes how in Gaul, dogs were armed with coats of mail. It is recorded that in 650 B. C., the Greeks of Ionia made use of dogs against the Cimmerians to aid Ardys, the son of Gyges. These were probably wolf-like creatures, which not only chased but seized and tore their human prey.

Q. What is the origin of the term doughboy? O. F.

A. The word doughboy was derived from a form of small cake that was issued to the sailors. Later it was applied to a button of similar shape worn by infantrymen, and finally to the soldiers themselves. It is said that Major-General Sibert, commanding the 1st Division, publicly asked for suggestions for a name to correspond with the British Tommy Atkins. The term doughboy was apparently first used during the War of Secession about 1862. There is another suggestion, however, that it dates from the Mexican War, 1846-47, and that it originated from the adobe huts in which the United States infantry was usually quartered.

Q. Why is the term God's country applied to Australia? E. M.

A. This is often applied to a nation or country by its sons and daughters. A recently published bulletin on Australia calls attention to the fact that among the white inhabitants poverty is practically unknown, the aged, infirm, and children are adequately provided for, the labor situation is satisfactory, and the territory itself offers unlimited possibility for development, exploitation, and the exercise of man's ingenuity. All these things would make it seem a favored spot.

Q. How did the expression stealing thunder originate? E. G. R.

A. Stealing the thunder was coined in an early English playhouse. The material placed inside a cylinder to simulate thunder was taken out, with the result that the ominous sound was lacking when the cylinder was rolled. Someone had "stolen the thunder."

Q. What is the roof of the world? T. A. R.

A. The expression roof of the world is applied to the Pamir Plateau in Central Asia. Its Persian name has this significance.

Q. What is meant by average conditions as noted in the New York Bank Statement on the financial pages of newspapers? H. C.

A. The New York Clearing House says that the average condition is taken for the six working days ending with Friday of each week.

Q. Of just what do belles-lettres consist? F. B.

A. Formerly the expression was sometimes used as the equivalent to the humanities but it is now applied rather vaguely to literary works of style, taste and imagination—in other words, polite literature. The term has no recorded use in English before 1710, when it was used by Swift in The Tatler.

Q. Why are racing cups called loving cups? J. R. S.

A. All racing cups are not necessarily loving cups. A loving cup is one having two or more handles, generally constructed of silver. The custom of the loving cup is traced back to the days of wassailing. It was continued after the introduction of Christianity. The monks called the wassail bowl the poculum caritatis meaning loving cup. The ceremony of drinking from one cup and passing it around was observed in the Jewish paschal supper.

Q. Who first used the term moving pictures? S. S.

A. Thomas S. Tally of Los Angeles is credited with coining the phrase moving pictures in 1897.

Q. Who compose the President's official family? S. H. D.

A. This term is applied to the members of the President's Cabinet.

Q. Why are silhouettes so-called? F. S. F.

A. The name is derived from Etienne de Silhouette, a French minister of finance, who was famous for his measures of economy in 1759. All business was stripped of unnecessary detail. Paintings were reduced to mere outlines. Whether this was in conformance with the spirit of economy, or because it was a coincidience that black and white outline portraits became popular at this time the name Silhouette was applied to them and has clung.

Q. How did the word Anzac originate and what do the letters represent? R. E. H.

A. The term Anzac as applied to the colonial soldiers of Great Britain during the war is formed from the initial letters of the words "Australian New Zealand Army Corps." The phrase was used by General Birdwood in a telegram dispatched from the Gallipoli Peninsula. Others have sought to interpret it as being composed of the initial letters of the British colonies— Australia, New Zealand, Africa and Canada.

Q. What does Kohinoor mean? I. M. C.

A. The word is Persian for mountain of light. The diamond which bears this name is said to have weighed 793 carats originally. It is one of the crown jewels of Great Britain and its present weight is 106 1-16 carats.

Q. What is meant by the roaring forties? H. Y.

A. This is a sailor's term for the seas between 40 degrees and 50 degrees north and south of the Equator. It is applied particularly to the part of the Atlantic Ocean which lies in the forties, as it is a stormy region.

Q. What is the origin of the expression ships that pass in the night? F. J. McN.

A. The phrase is from a poem by this name by Henry W. Longfellow. Beatrice Haraden used the line as the title of her novel.

Q. Where do we get the expression seven league boots? F. M. C.

A. The seven league boots are introduced into the nursery tale Tom Thumb which is from the French Le Petit Poucet, by Charles Perrault, written about 1630. The story, however, is probably of Anglo-Saxon origin. There is in the Bodleian Library at Oxford, a ballad about Tom Thumb printed by John Wright in 1630.

LXIII

TIME

Q. How is United States standard time calculated? C. R. W.

A. The United States Naval Observatory has three standard clocks running in constant temperature vaults, electrically wound and sealed to keep the air pressure constant. Maridian circle observations of selected stars are taken regularly on clear nights, and from these observations, the errors of these standard clocks are determined.

Q. Please explain the time signals as sent out from Arlington. D. R. S.

A. The time signals are sent out several minutes before the hour, making a buzz every second. On the 29th and 59th second they stop and on the 31st second and the 1st second of the next minute they continue. The long buzz designates the hour.

Q. What size is the largest watch in the world? G. G.

A. A watch nine and a half inches in diameter has recently been placed in the National Museum in Washington, D. C. This is said to be the largest watch in existence.

Q. Please give me the history of the almanac. Mc.

A. The history of almanacs has been traced back to very early times. It has been ascertained that Alexandrian Greeks had them, though it is not exactly known when they appeared in Europe. The oldest existing almanacs in manuscript form date from the 13th and 14th centuries, whereas, the earliest printed almanac was by the astronomer Purbach, and appeared between the years 1450 and 1461.

Q. I have a clock labeled "Seth Thomas, Plymouth Hollow, Conn." Is this the same place as Thomaston? H. R. H.

A. The original name of Thomaston, Conn., was Plymouth Hollow. The name was changed to Thomaston in honor of Seth Thomas, the famous clock manufacturer.

Q. What is the adjustment of a watch balance necessary to keep perfect time? V. D.

A. A watch balance vibrating exactly 18,000 times each hour will keep perfect time, but if it should vibrate 18,001 times an hour the watch would gain two and two-fifths minutes in a month.

Q. Was Franklin's Almanac the first American almanac? I. B. T.

A. Franklin's Poor Richard's Almanac is perhaps the most famous of American almanacs, but not the first, credit for which is given to William Pierce of Cambridge, whose almanac was published in 1639.

Q. At what time does the day begin? M. B.

A. Most modern peoples begin the day at midnight. The Babylonians began it as sunrise, the Jews and Greeks at sunset, but the Egyptians and Romans began it at midnight as we do.

Q. Why are display clocks always set at 8:18? S. K.

A. The position of the hands of a clock is one which has been selected for the reason that it furnishes the greatest facility to meet the requirement for painting the longer name above the hands and the shorter word below. The minute hand has been varied in position from 17 to 25 minutes after eight. Sometimes the longer name requires to be written in a semi-circle above the hands. There have been stories connected with the death of Lincoln, that the position of the hands is commemorative of the hour of his death, but this is not true.

Q. How much of an error is made in sending out Observatory time? W. U.

A. Errors as large as 1-10 of a second sometimes occur, though the average error does not exceed 5-100 of a second.

Q. What is meant by saying that all watches are compasses? C. O. N.

A. The statement is probably made because it is quite an easy matter to use a watch as a compass. Let yout watch lie flat in your hand, with the hour hand pointing toward the sun; and the point on the circle half way between the hour hand and XII, will be directly south in the northern hemisphere and directly north in the southern hemisphere.

Q. When does the Chinese year begin? S. N. R.

A. The Chinese year which began late in January, or early in February, depending upon the moon, was similar to the Mohammedan in having twelve months of 29 and 30 days alternately, and in every nineteen years there were seven years which had 13 months which were determined upon lunar observation. Since 1912 China has adopted the Christian calendar.

Q. When was standard time officially adopted? G. J. P.

A. The United States adopted standard time in 1883, on the initiative of the American Railway Association, and at noon on November 18 of that year the telegraphic time signals sent out daily from the Naval Ovservatory, at Washington, were changed to the new system.

Q. Did the ides always fall on the 15th of the month? E. N.

A. The ides in the Roman calendar occurred on the 15th in March, May, July and October. In other months, it occurred on the 13th.

Q. When were watches invented? K. F.

A. The first watches were made early in the 16th century, and Peter Hebe, a Nuremberg clockmaker is credited with the invention. These early watches had but one hand, the minute hand and its mechanism being invented in 1687.

Q. Where is the largest clock in the world?

A. The Colgate clock is the largest in the world. The hour hand measures 15 feet in length and is 3 feet 10 inches at its greatest width, while the minute hand has an over-all dimension of 20 feet. The hands are made of copper sheet metal. In place of numerals, coffin-shaped strokes of black 5½ feet long are used.

Q. We have a dispute as to what a calendar year consists of. Please explain. T. D. N.

A. The calendar, civil or legal year is now reckoned as beginning January 1st, and ending December 31st.

Q. When is Easter Sunday? W. J. C.

A. Easter is the first Sunday after the first full moon after the 21st of March.

Q. Why are the boundaries of the time zones zig-zag on the map of the United tSates? V. J. T.

A. The Interstate Commerce Commission fixes the boundaries between the time zones. Often the boundaries are made to depart from the half-way position between the standard meridians in order to suit the convenience of the railroads or to meet the demands of the communities affected.

Q. When Sunday was abolished during the French Revolution, was there no day of rest? C. C.

A. It was then arranged that every tenth day should be a day of rest.

Q. What is long Sunday? S. L. F.

When the last day of the old year came upon the Sabbath, in olden times, it was called long Sunday as worship and prayer lasted until midnight, at which hour the watch meeting was dismissed.

Q. In what year was the clock invented? J. T.

A. The clock in its present form is the result of development through various devices employed among the ancients, the most notable of which was the clepsydra. It is uncertain when the first time clock was constructed. Its invention is claimed by various people from the Chinese 2,000 B. C. to the Germans of the eleventh century.

Q. When was Sunday first considered the first day of the week? D. V.

A. In 321 the Roman Emperor, Constantine, who had been converted to Christianity, issued an edict protecting the Christians, and also changing the observance of the Sabbath as a legal day of rest from the Sabbath which had formerly been observed on the 7th day of the week, to the first day of the week, commemorating the resurrection of Christ from the dead. Since this time the Sabbath or Sunday, has been reckoned as the first day by the majority of Christians.

Q. Into how many zones is standard time divided in the United States? L. J. McM.

A. It is divided into four zones; eastern, central, mountain, and Pacific. There is three hours difference in time between New York and San Francisco. When it is noon in New York it is eleven A. M. in the central zone, ten A. M. in the mountain zone, and nine A. M. in the Pacific zone.

Q. Who started counting time from the birth of Christ? G. P.

A. Dating the years from the birth of Christ originated with Dionysius Exiguus, a learned monk of Rome who lived in the last part of the fifth century and the beginning of the sixth century. An error in his calculations was discovered in the fifteenth century, which resulted in placing the estimated date of Christ's birth four years earlier than the date set by Dionysius.

Q. Please tell something about the longest night in history when people went to bed on the 2nd of September and awoke on the 14th. J. P. W.

A. The longest night in history, September 2, 1752, was when the Gregorian calendar was adopted in England, through the influence of Lord Chesterfield. The calendar arranged by Julius Caesar by not making sufficient allowance for leap year had caused the English date to become eleven days behind the right time. These days were omitted after September 2nd, so that the next day was reckoned as September 14th.

Q. Where in North America was daylight saving first introduced? P. S.

A. Nova Scotia introduced daylight saving into the new world.

The measure was brought forward in the United States in 1918.

Q. What clock is it that shows the motions of the sun, marks the years and some historical events? L. J.

A. The clock to which you refer is probably one which was completed by Felix Meyer of New York in 1880 after ten years' work and experimenting. It showed local time, the hours, minutes, seconds, the days of the week and months, the seasons, the signs of the zodiac, the revolution of the earth around the sun and on its own axis, the movements of the planets around the sun, and the phases of the moon. It showed the difference in time in Washington, San Francisco, Chicago, Cairo, Melbourne, Constantinople, Peking, London, Paris, Berlin, Vienna, and St. Petersburg (Leningrad). A child struck the quarter hour, a youth the half hour, an old man the three-quarter, and death the hour; while Washintgon rises from his seat and extending his right hand presents the Declaration of Independence, a servant opens the door and all the Presidents of the United States enter and salute Washington and pass out through another door.

Q. Was there a difference in the calendar of the United States and Russia in 1910? A. Z.

A. At that time Russia was still using the old style or Julian calendar, whereas the United States was using the new style or Gregorian calendar. Russia adopted our calendar on the 14th of Februry, 1918. The difference between the two styles of reckoning was 11 days.

Q. Who invented or devised the System of Standard Time now in use? A. A. C.

A. It appears to have been suggested first by Charles Dowd, of Saratoga Springs, in 1870. In 1879, the question was raised anew by Sanford Fleming, chief engineer of the Canadian Pacific Railway, and the plan was published in the Journal of the Canadian Institute of Toronto for 1879. The plan was adopted in 1883.

Q. What is the difference between mean solar time and local time? D. T.

A. Mean solar time and local time are the same. The local time of certain meridians has been adopted as the standard time.

Q. When did Japan, China, Turkey, Russia, and Roumania adopt the Gregorian calendar? W. B. B.

A. Japan adopted the calendar in 1873; China, 1912; Turkey, 1917; Russia, 1918; Roumania, 1919.

Q. How can I demagnetize my watch? W. C. K.

A. The watch may be demagnetized by placing it in a coil of wire about three inches long having approximately 600 turns and an alternating current of one ampere. The watch is to be very slowly withdrawn from the coil while the alternating current is still flowing.

Q. Is there any way by which time could be reckoned at the Poles? M. M.

A. The Naval Observatory says the phrase "local mean time" has no meaning at the poles; but the common practice all over the earth is not to keep local mean time, but that of some meridian passing near the place. In the United States the time is that of the 75th, 90th, 105th, or 120th meridian. At the poles, as elsewhere, some meridian would have to be agreed upon. From a purely theoretical standpoint, one meridian would be as good as another.

Q. How closely will a marine chronometer keep time? R. W.

A. Some chronometers will keep correct time within a second a day. Some may gain or lose 15 seconds

a day. If this is done regularly, the chronometer should not be regulated, since a constant rate is the main object, the variation being easily computed.

Q. What is the native system of reckoning time in India? V. E. C.

A. The Samvat year is generally used except in Bengal. According to tradition it was introduced by King Vikrana in 58 B. C. A Samvat given date represents the year last completed.

Q. Why has February only 28 days? J. K. C.

A. The fact that ordinarily the month of February has only 28 days is due to the arrangement of the calendar by the Romans. This month had originally 29 days, but when the Senate decreed that the 8th month of the year should be named for Augustus, a day was taken from February and added to August, which had then only 30 days, so that it might not be inferior to July, named for Julius Caesar.

Q. What is the use of the little fan in a clock which is set in motion when the clock strikes? A. C. B.

A. This fan acts as a governor to prevent the clock's striking too fast.

Q. What is the name given to August the first by the English? H. H.

A. It is called Lammas Day. It was an Anglo-Saxon loaf-mass or wheat harvest festival celebrated on August 1 old style calendar, or August 12 modern calendar. In the Roman Catholic Church, the feast is celebrated on August 1 in commemoration of the imprisonment of the Apostle Peter.

Q. Is twelve o'clock midnight considered twelve A. M. or twelve P. M.? B. H. P.

A. The Naval Observatory says the proper designation for midnight is twelve P. M.

Q. Do any countries have daylight saving laws? J. W. S.

A. Permanent daylight saving laws have been adopted in various European countries, particularly in Great Britain, France, and Belgium.

Q. What time is it by land time at eight bells? E. B. L.

A. On shipboard, bells mark the half hour. Four, eight and twelve o'clock are marked by eight bells; 4:30, 8:30, 12:30 by one bell; one, five and nine by two bells, and so on until eight bells, which marks the end of the ordinary watch.

Q. What are quarter days? J. K. R.

A. Quarter days are, in England, the days which begin the four quarters of the year: March 25, or Lady-day; June 24, or Midsummer-day; September 29, or Michaelmas-day, and December 25, or Christmas-day. In the United States, in law, quarter days are the 1st of January, April, July and October. In the relation between landlord and tenant in some States they are the 1st of May, August, November and February.

Q. Are clocks set by the time ball on the State, War and Navy Building in Washington? J. B. W.

A. The Naval Observatory says that no clocks are set directly by the time ball, but that the time ball is controlled from the same electric switchboard at the United States Naval Observatory which sends the time signal to the radio stations and telegraph companies.

Q. How can leap years be determined? G. W. T.

A. Any year the number of which is divisible by four is a leap year, excepting century years, which must be divisible by 400. This was made necessar to account for a small fraction of time which could not otherwise be well adjusted.

LXIV

TOBACCO

Q. Is the consumption of tobacco on the increase? A. M. E.

A. The consumption of tobacco in the United States has increased from less than 4 pounds per capita before the Civil War to 8.5 pounds per capita at the present time.

Q. In what country is smoking most general among women? T. L. W. B.

A. Smoking is almost universal among Russian women, and it is probable that among the white nations that country has the most women smokers.

Q. What part of the price of a package of cigarettes goes to the Government? F. L. Y.

A. On an average the Government gets six cents for every fifteen-cent package of cigarettes. It has been estimated that a man who smokes a fifteen-cent pack of cigarettes daily pays the Government a direct tax of nearly $22 a year.

Q. Why is rice paper used as a wrapping for cigarettes? R. W. A. H.

A. The rice paper in common use today in cigarette manufacture is regarded by the paper making trade as the highest achievement in the paper industry so far as purity is concerned. It has taken years to develop a paper which would be the least injurious to smokers.

Q. How many types of tobacco are raised in this country? M. P.

A. There are now several hundred indiscriminate type names used. The Department of Agriculture advocates a reduction to 27 definite types. These could be placed in six classes, including four or five types.

Q. What is done to the wood of which pipes are made so it does not burn? J. G.

A. Smoking pipes are usually made out of special kinds of wood which are very tough and close grained, which do not crack or burn easily. Many pipe bowls do become charred.

Q. What was the origin of the word tobacco? B. C. S.

A. The explanation perhaps most generally accepted is that the word tobacco is derived from tobago, which was an Indian pipe. The Island of Tobago, contrary to the belief of many, did not furnish the name for tobacco. The island was given that name by Columbus because of its resemblance in shape to the Indian pipe.

Q. When were cigarettes first used? A. M. B.

A. The earliest reference to the cigarette occurs in literature in 1842 and 1843, where it is stated that cigarettes were smoked in France and Italy. Laurence Oliphant is generally credited with the introduction of the cigarette to English society. It did not become popular, however, until 1870.

Q. How can a tobacco pipe be made fresh? T. C.

A. Pipes may be sweetened by allowing the bowls to soak in alcohol. This will dissolve some of the nicotine. A little potash may be added to the alcohol if so desired.

Q. Why does a dealer offer the box when a man wants to buy a cigar? F. L.

A. The Bureau of Internal Revenue says that the law states that after a cigar has been removed from the box it cannot be returned. It is, therefore, generally customary for a dealer to offer the box when a customer is purchasing cigars.

Q. Does smoking cigarettes or cigars have an effect upon one's taste? S. C. S.

A. Authorities in the tobacco investigation division of the Bureau of Plant Industry say that smoking does not dull taste.

Q. How much tobacco is there in a hogshead? H. U. E.

A. The hogshead of tobacco varies from 750 pounds in some States, to 1,200 in others. As a liquid measure the hogshead is equivalent to 63 American gallons, or 52.485 imperial gallons.

Q. How does Turkish tobacco differ from American tobacco? T. U. J.

A. Tobacco is native to America and it is not known when nor how it was carried to Turkey. In the centuries that it has been there, it has lost many of its American characteristics. It has a much smaller, thinner leaf, and a pungent, spicy taste.

Q. Is meerschaum made or found as it appears in commerce? A. J. S.

A. When dug it is soft and of an almost cheese-like consistency, easily cut with a knife. It rapidly hardens on exposure to the air. The largest source of meerschaum is in Asia Minor. In the town of Sepetdje, in Asia Minor, there are over 20,000 pits in a space of six miles and meerschaum has been dug in this locality for over 1,000 years.

Q. Why is brier wood used for pipes? B. K. L.

A. This particular wood is used because of its non-inflammable character, which it owes to the high proportion of salicylates contained in its fibers.

Q. How many tobacco leaves are there in a hand of tobacco? S. O. P.

A. The Bureau of Plant Industry says that the number of leaves of tobacco in a hand of tobacco varies, but runs usually from 6 to 20 leaves or more, depending upon the type and grade of the tobacco and the size of the leaves. The heaviest tobacco and best grade usually contains a smaller number, the Dark Kentucky tobacco for instance. The weight is variable also. From 3 to 5 ounces is a fair average for a hand, but it may run as high as 6 or 8 ounces.

Q. Is there more or less chewing tobacco, pipe-smoking tobacco, cigar tobacco, and cigarette tobacco produced today than formerly? A. T. S.

A. The maximum production of chewing tobacco was virtually reached as early as 1897. On the other hand, production of pipe-smoking tobacco increased rapidly until about 1910, while the subsequent rate of increase has been much slower. Manufacture of cigars increased rapidly until about 1906, but since that time the rate of increase has fallen off. Beginning with about 1910 the production of machine-made cigarettes began to increase with remarkable rapidity, and this rate of increase has been steadily maintained.

Q. How many cigars and cigarettes may I take to England when going for a three months' visit? G. F. L.

A. The Department of Commerce says no specific quantity of tobacco may be taken into England. Any reasonable amount will be admitted free of duty if taken in with your baggage.

Q. What kind and how much wood is used for tobacco pipes? H. S. B.

A. The highest quality pipes are made from French briar, ebony, and rosewood. Cheap pipes are made from the sapwood of sweet or cherry birch, and red gum. The former is said to imitate calabash, and the latter rosewood. The quantity used annually throughout the country is given as approximately 490,000 feet, of which red gum supplies approximately 12,000 feet annually, birch 2,000 feet, ebony 9,800 feet, applewood 121,435 feet, miscellaneous foreign woods 332,300 feet, and miscellaneous native species 22,000.

Q. Is the name Bull Durham trademarked? H. F.

A. The American Tobacco Company says that the trade name consists of the words Bull Durham used singly or collectively, with, or without, the picture of a bull, which trademark name is the property of the company.

Q. Is snuff-taking indulged in to any extent nowadays? F. L. T.

A. The practice of snuff-taking is more widely prevalent than is commonly thought. In the United States, where the consumption is about 9,500 tons a year, the chief users are foreign-born. The snuff used in this country is all of domestic manufacture.

Q. When was the clay pipe first made? A. O. O.

A. The ordinary clay tobacco pipe has been in use since 1820.

Q. Is a discarded cigarette, cigar, or pipe tobacco most likely to cause a fire? F. F. P.

A. The Forest Service has experimented with the three in reference to forest fires, and finds that pipe heels are only second to lighted matches in their ability to start fires, and that this smoldering tobacco is much more likely to kindle forest litter, bark, rotten wood, or pine needles than either a cigarette or cigar.

Q. What is used to color brier pipes? What care should such a pipe be given? E. R. H.

A. Brier pipes are dyed with a harmless dye, similar to that used for dyeing Easter eggs. The gloss is obtained by polishing after the pipe has been dyed. In smoking brier pipes, the tobacco should be taken out after each smoking and the pipe left dry. It is essential that the pipe be allowed to rest a day after being smoked. A person should have at least two pipes in order that he can allow the one to remain unusued for a day.

Q. How many factories are engaged in making cigars and cigarettes? M. W. W.

A. The census of 1921 shows 4,146 establishments engaged in their production, with value of such products for the year, $806,748,865.

Q. When was tobacco first cultivated in this country? R. F. W.

A. In America the culture of tobacco began in Virginia with the earliest settlement of the colony. It is recorded that in 1615 the gardens, fields, and even the streets of Jamestown were planted with tobacco. which immediately became not only the staple crop but the principal currency of the colony. The culture of tobacco was introduced into the Dutch colony of New York in 1646. though it never gained the same prominence there as farther south.

Q. What are the various color gradings for cigars? H. F. O.

A. There are five distinct color

grades for cigars: Claro, a very light brown; Colorado Claro, a light brown; Colorado, a medium brown; Colorado Maduro, a dark brown, and Maduro, a very dark brown, almost black.

Q. What color and consistency is nicotine? D. G.

A. Nicotine is a colorless, intensely poisonous liquid. If exposed to the air, it absorbs oxygen and becomes brown and ultimately solid. The quantity of nicotine contained in tobacco varies from 2 to 8 per cent, the coarser kinds containing the larger quantity, while the best Havana cigars seldom contain more than 2 per cent, and often less. Nicotine does not appear in tobacco smoke. It is split into pyridine and collodine. Of these the latter is said to be the less active, and to preponderate in cigar smoke, while the smoke from pipes contains a larger amount of pyridine.

Q. Why isn't it possible to use a cigar box a second time? J. S. M.

A. The Bureau of Internal Revenue says that the law prohibiting the use of a cigar box a second time was made in order to prevent dealers from refilling the box and using the same revenue stamp. By doing this they would be evading the tax on cigars.

Q. How many acres of land are devoted to raising of the tobacco from which cigarettes are made? D. S. G.

A. The Department of Agriculture says that the domestic and foreign demand for cigarettes is such that tobacco planters are increasing their acreage. Last year the combined acreage of the principal cigarette types, burley and flue-cured, was 1,177,000, with 30,000 acres of Maryland tobacco. The estimate for next year is 1,179,000 acres of burley and flue-cured, and 32,000 acres of Maryland.

Q. What do the letters T. D. on a clay pipe represent? R. P. C.

A. They stand for the initials of Timothy Dexter, an accentric capitalist, who left a large sum of money for the manufacture of such pipes. He was born at Malden, Massachusetts, in 1793, and is noted for writing a book entirely without punctuation.

Q. How did nicotine come to be given that name? L. F.

A. This word is derived from the name of John Nicot, who introduced tobacco into France in 1560.

Q. Where was tobacco first found? N. U.

A. Tobacco is a native of the Western Hemisphere, where the aborigines cultivated and used it from remote times. Its generic name is in honor of Jean Nicot, who introduced it into France in 1559 from Spain, where it had been brought from Santo Domingo in the same year. In 1585 it was taken to England by Sir Francis Drake, and the practice of pipe smoking introduced among the Elizabethan countries by Sir Walter Raleigh. Its use rapidly extended throughout Europe, and soon became prevalent among Oriental nations.

Q. When were cigarettes first manufactured in this country? I. M. C.

A. The manufacture of this product began about 1864, in which year 19,770,000 were made in the United States. Apparently they did not take well, for in 1869 the number of cigarettes manufactured was only 1,750,000, but since that time the annual output has rapidly increased until now the total number of cigarettes made is about 80,000,000,000 annually.

Q. What is the yellow stain on the fingers of smokers? J. A. M.

A. The yellow stain which appears on the fingers of cigarette smokers is due to the products of

combustion of the tobacco. It cannot be defined chemically.

Q. How can oil be collected from tobacco? G. H. M.

A. There is no essential oil in tobacco.

Q. Does all tobacco contain the same amount of nicotine? D. B. H.

A. The percentage of nicotine varies with the kind of tobacco and with the district in which it is grown. Our domestic "cabbage-leaf" brand contains from .94 to 5 per cent of nicotine. This is on the authority of the United States Department of Agriculture. The French Department of Agriculture states that it finds from 2.2 to 10.5 gr. in tobacco examined by their experts.

Q. What city consumes the most cigarettes at the present time? O. E. B.

A. It is estimated that in Constantinople the consumption is largest per capita. Constantinople is reported to average 2,179 cigarettes every minute of the day, which in a waking day of sixteen hours would mean a total per capita consumption of the people of the Turkish city of 900,000, or two cigarettes daily for every man, woman, and child.

Q. Is it the nicotine in the tobacco or in the cigarette paper which causes a cloth to turn yellow when the smoke is blown through it? M. M.

A. It is caused by neither. It is caused by the resinous products that result from combustion in tobacco.

Q. How is chewing tobacco flavored? E. F. G.

A. Tobacco is flavored by dipping the leaves into a receptacle containing the sauce used for flavoring. This liquid is the result of experiments by the manufacturers some using one formula and some another. Licorice paste, cane sugar, maple sugar, and molasses are among the ingredients most commonly used.

Q. How much more does damp tobacco weigh than dry tobacco? J. L. N.

A. Damp tobacco will probably weigh from 10 to 20 per cent more than dry tobacco.

Q. How many cigars and cigarettes are manufactured in the United States yearly? W. L.

A. Based on the sale of revenue stamps necessary for the sale of tobacco for the fiscal year ending June 30, 1925, there were 6,500,751,954 large cigars; 448,204,613 small cigars; 18,032,836 large cigarettes; 79,957,612,285 small cigarettes. Stamps were also bought for 37,797,598 pounds of snuff and 372,431,572 pounds of tobacco in other forms.

Q. When was tobacco first raised in Connecticut? R. E. P.

A. Between 1640 and 1660. Its cultivation was undertaken because of a law restricting the use of tobacco to that grown in the colony.

Q. Are light-colored cigars milder than dark ones? N. S.

A. A light-colored wrapper does not necessarily signify a mild cigar. It is the filler which determines the strength, and both light and dark tobacco may be bitter and strong if it has not been properly ripened and cured.

Q. Can a tobacco barn be used for storing sweet potatoes? W. O.

A. A flue-heated tobacco barn can be so modified that it will serve a dual purpose. The curing season for tobacco is over before sweet potatoes are harvested, so one building will serve for both uses.

Q. Is tobacco grown in Egypt? A. C. H.

A. Egyptian cigarettes are sold all over the world, yet the growing of tobacco in Egypt is forbidden.

Q. How is snuff made? A. C. T.

A. The manufacture of snuff is the most complex, tedious, and difficult undertaking of the tobacco manufacture, but it is now of but little importance. The tobacco best suited for snuff-making is thick, fleshy leaf of a dark color, but scraps and waste pieces resulting from the preparation of smoking mixtures and cigars, and the midribs of leaves are largely used. The material is moistened with a solution of common salt and placed in very large heaps to ferment for some weeks. Various flavoring materials, such as licorice, tonka beans (Dipteryx odorata) and other ingredients, are added, the natures of which are often trade secrets. The mass is dried, ground, and allowed to ferment again, the process being repeated if necessary. The peculiar properties of snuff are dependent on the presence of free nicotine, free ammonia, and the aromatic principles developed during fermentation.

Q. Are there any States that prohibit tobacco smoking entirely? H. D. G.

A. No State does so, although one State prohibts smoking in public, and another smoking when a public nuisance. Twenty-four States regulate the sale of tobacco to minors.

Q. What are brier pipes made of? W. O. H.

A. In southern Europe brier pipes are made of the brier root, that is, the white or tree heath, Erica Arborea. In the United States the root of the mountain laurel, also that of Smilax Laurifolia and Smilax Walteri are used.

Q. How many American cigarettes are exported? N. T.

A. Last year cigarettes were exported to the number of 8,145,639,000 and value of $15,042,794. More than half of them went to China.

Q. Can a cigar box be deodorized? C. M.

A. If the cigar box is made from Spanish cedar, as the good ones are supposed to be, it would be rather difficult to deodorize it completely since the odor is due to a resin in the wood which is fairly well distributed throughout the wood structure. If the box is made from some other wood which does not have much natural odor but which may have taken up some odor from the tobacco, it might be that a thorough airing or perhaps washing with gasoline would remove it.

Q. What city is supposed to be the largest general tobacco market in the world? P. B.

A. When conditions are normal, Bremen, Germany, is the largest tobacco market in the world.

Q. Are snuff boxes still kept in the Senate? W. O.

A. The old snuff boxes are still retained and kept filled, although no one uses them now. They are a relic of the early days when snuff taking was popular and a snuff box was kept on the desk of the Presiding Officer.

Q. How much tobacco did Americans use last year? C. E. A.

A. The Office of Tobacco Investigations says: "Consumption of tobacco in 1925 can only be approximated on the basis of leaf tobacco consumed in manufacture or the quantity of tobacco products actually manufactured during the year. From available data it estimates that about 680 million pounds of leaf tobacco were used by domestic manufacturers during the past calendar year. Available data indicate that there were produced from this quantity of leaf about 410 million pounds of chewing and smoking tobacco and snuff, 239 million pounds of cigarettes, and 150 million pounds of cigars, a total of 799 million pounds manufactured tobacco. Of this quantity of tobacco products about 95 per cent was retained for domestic consumption, the remainder being exported."

LXV

TRANSPORTATION AND COMMUNICATION

Q. How large was Noah's Ark? H. L. W.

A. If the cubit was 18 inches as it is supposed, it was 450 feet long and 75 feet wide. The Leviathan of today is slightly over 900 feet long and about 100 feet wide.

Q. Where were the first highways in the world? F. C. S.

A. The first highways of which anything is known were the trade routes of Asia Minor which connected the East with the West about 2000 B. C.

Q. When was the first ship built in America that crossed an ocean? L. C.

A. A little band of Huguenots at Port Royal built a pinnace in 1562 in which they returned to France in the winter of 1562-3. This is thought to be the first American-built ship to cross the ocean.

Q. When and where was the first railway in the world built? A. G.

A. The Stockton and Darlington Railway in England was the first public railway in the world. It was opened for traffic September 27, 1825. George Stephenson's Locomotive Number 1 was the first steam-driven locomotive introduced to work public traffic. Its speed was 8 miles an hour.

Q. What was the first steamship to cross the Atlantic? F. S. C.

A. It was the Savannah, 350 tons, built at New York City, which left Savannah, Georgia, on May 24, 1819, and reached Liverpool in 26 days, during 18 of which she used her side-paddles.

Q. What was the first message transmitted by telegraph? H. E.

A. The first telegraphic message, sent from the United States Supreme Court room in the Capitol at Washington to Baltimore, May 24, 1844, was "What hath God wrought?"

Q. What percentage of farms have telephones? J. H.

A. Approximately 44 per cent have telephones. There are 2,800,000 telephones on farms.

Q. What is the oldest canal in this country? K. W.

A. The first canal was built around the falls of the Connecticut River at South Hadley Falls, Mass., in 1793, but the first general canal for passengers and merchandise opened in the United States was Middlesex, around the falls at the mouth of the Concord, incorporated in 1793 and completed in 1804 at a cost of $700,000. It was 31 miles long, 24 feet wide and 4 feet deep.

Q. Did Julius Caesar build a road in England? O. W.

A. There is a famous Roman road in England, now known as Watling Street, which was built by Julius Caesar during the Roman occupation.

Q. Please give the first words heard over a telephone? M. B.

A. On one hot afternoon, June 2, 1875, the telephone gave forth its

first sound, a faint twang. The thing seemed almost finished to Alexander Graham Bell and his associate, Watson, but such was not the case. For forty weeks they labored with the telephone to try to teach it to talk. Finally, on March 10, 1876, its inarticulate screams, wails, and gurgles suddenly gave way to a clear voice. At his end of the wire Watson heard himself addressed by Bell, "Mr. Watson, come here, I want you." That was the first message ever conveyed over the wires by a human voice.

Q. What interurban electric won the last speed contest? W. J. L.

A. The Galveston Houston Electric Railway Company was the winner with an average speed of 40.3 miles per hour on its run from Galveston to Houston. The award made in October, 1925.

Q. Please describe the non-magnetic ship Carnegie. H. B.

A. This ship is built entirely of wood, brass and copper, all non-magnetic materials. The timbers in the hull are fastened with bronze spikes and bolts. The rigging is of hemp, the cook stoves are of brass and copper, and the anchors of bronze. The Carnegie was launched in 1909 and has made six cruises covering about 292,000 miles. She has circumnavigated the globe three times.

Q. What is an automatic telephone? J. P. C.

A. An automatic telephone is a telephone forming a unit of a system in which the connections are not made by operators, but by electro-mechanical devices at a central station, whose operation is initiated by the calling subscriber.

Q. What is the most famous train of Europe? S. R. S.

A. The Calais-Constantinople, Simplon-Orient Express which travels from Calais to Constantinople in three days fifteen hours, forty minutes, traversing six countries, is considered the most famous.

Q. Why do shipowners send cats to sea on their vessels? L. S.

A. A ship found under certain circumstances without a living creature on board is considered a derelict, and property rights in her are forfeited. It has happened, after a ship has been abandoned, that a live cat discovered on board has saved the vessel from being condemned.

Q. When was the first excursion trip made from coast to coast? J. S.

A. The Bureau of Railway Economics says that the first transcontinental trip was made by the Boston Board of Trade on an excursion leaving Boston May 24, 1870, and arriving at San Francisco on May 31, 1870.

Q. Has the collier Cyclops been finally given up as lost? S. W.

A. The loss of this ship, loaded with manganese and carrying 57 passengers, 20 officers and a crew of 213, has never been explained. After months of search and waiting the Cyclops was finally given up as lost and her name stricken from the registry of the Navy.

Q. When and where was the first subway constructed? L. G.

A. The urgent need of an underground railroad was first felt by the city of London. A two-track underground railway running from Edgeware to King's Cross was begun in 1853.

Q. What is the largest ship that has passed through the Panama Canal? B. A.

A. H. M. S. Hood. She had a margin of only 30 inches on either side.

Q. How many telephones are there in the world? C. W. G.

A. The American Telephone and Telegraph Company says that ac-

cording to data at hand they estimate the total number of telephones in the world on January 1, 1925, as 25,982,000, and the total telephone wire mileage as 76,114,000. Since some figures are not yet available the figures given are subject to revision.

Q. What city had the first municipally owned street cars? C. M.

A. San Francisco built the first system of the sort in 1910.

Q. What year did a steamer make the first trip up the Ohio? J. R. M.

A. The first trip up the Ohio River by steamboat was made in May, 1815, by the Enterprise, of 75 tons. She traveled from New Orleans to Louisville in that year, the trip taking 25 days. The steamer Washington made the same trip in 1816 and inaugurated steamboat navigation in the Mississippi Valley.

Q. How long is the Lincoln Highway? I. C. B.

A. According to automobile mileage, the Lincoln Highway is 3323 miles long.

Q. What was the price of passage from the United States to England by the first steam vessels? M. E. C.

A. The passenger rate quoted in the Royal William, one of the earliest trans-Atlantic steam vessels which sailed from New York August 4, 1828, was "$140 (for which wine and all stores of all kinds will be furnished)." This vessel also carried letters for twenty-five cents a single sheet, or $1.00 an ounce.

Q. How much does it cost to build an average mile of standard railroad? M. W. S.

A. The cost per mile to lay railroad trackage depends entirely on where it is laid; however, according to W. G. Raymond's Elements of Railroad Engineering it costs approximately $35,000 per mile to lay fully equipped trackage.

Q. The unusual size of the Leviathan is not understandable to the lay mind from the statements of its horsepower and gross tonnage. Give some other facts that illustrate its size. L. E.

A. It took 20,000 square yards of carpet to cover the floors of the rooms in this great ship. It contains 15 miles of piping for plumbing purposes, 500 miles of electric wiring, 15,000 electric lamps, and 600 telephones.

Q. What city has the most telephones in proportion to population? E. V. Y.

A. Omaha leads the world with 28 telephones to each 100 persons. The next ten cities, in order, are Stockholm, San Francisco, Minneapolis, Denver, Washington, Los Angeles, Chicago, Toronto, Cincinnati and New York.

Q. How long does it take a vessel to go through the Panama Canal? A. M.

A. A vessel proceeding directly through the Panama Canal without delays requires only from 10 to 12 hours for passage. Of this time 3 hours is occupied in being lifted and lowered through the locks.

Q. What was the first railroad to get a land grant from the United States? T. F. R.

A. The first railroad land grant from the United States was to the Mobile & Ohio Company of 1,000,000 acres lying along the route from Mobile to the mouth of the Ohio River. It was made in 1849.

Q. How deep do submarines go? L. P.

A. The test for a submarine is 200 feet. Submarines are so constructed as to be able to go 100 feet deeper, reaching a depth of about 300 feet.

Q. What was the first road to be built by the Federal Government? J. B.

A. The old national pike was the first to be built by funds taken from the national treasury.

Q. When was the first regular passenger train run? T. M.

A. On January 15, 1831 the first regular passenger service on an American railroad was instituted. The name of the locomotive was the Best Friend, and was on the Charleston & Hamburg Railroad. The locomotive was made at the West Point Foundry, N. Y.

Q. What is the longest canal in the world? F. F. V.

A. The Grand Canal of China. This canal is one thousand miles long, extending from Hangchow to Peking. It is about 2500 years old, and has become partially filled with mud from the overflow of the Yellow River, but is still a busy waterway.

Q. What is the fastest train in the United States? H. L.

A. It is said to be the Boardwalk Flyer, which runs from Philadelphia to Atlantic City daily at a speed of 65 miles an hour.

Q. How many trips did the Leviathan make during the war? W. A. B.

A. The War Department says that the Leviathan made nineteen round trips during the recent war.

Q. What is the log of a ship? F. A.

A. An instrument towed by the vessel by which the distance traveled is ascertained is called the log. The record of the ship's speed is therefore called the log and this report is often extended to a full nautical report of the voyage.

Q. What has become of the Great Eastern that laid the Atlantic Cable? C. A. L.

A. At the time of her construction the Great Eastern was the largest vessel built—1854-1858. From the first her career was unfortunate. After making several unremunerative trips to New York, she was employed as a British troopship, then as a cable-laying ship. Later she became a mere holiday spectacle and in 1888 was broken up.

Q. What is the approximate cost per mile of an underground trolley system similar to that used in Washington? H. B. McR.

A. A local street railway company says that the approximate cost per mile for underground trolley depends on what is to be moved, the number of sewers, pipe lines, etc. For extension work the cost at present ranges from $150,000 to $175,000 per mile of single track.

Q. Which costs more—a street car or one of the double deck busses? J. A. S.

A. The modern street cars cost from $12,000 to $14,000 while the double deckers cost about $13,000. The single deck busses cost about $9,000.

Q. How fast did Robert Fulton's steamboat travel up the Hudson? M. M.

A. Fulton's steamboat, the Clermont, made about 5 miles per hour on its trip up the Hudson to Albany.

Q. How long do freight cars last? C. M. W.

A. The life of a freight car depends upon the use to which it is put. Only an estimate can be made. It is that the average life of a box car is 20 years.

Q. Besides the Mayflower, what were some of the vessels that brought over English colonists? L. T. T.

A. Endicott crosed in the Abigail. The Ambrose, the Jewel and the Talbot are others.

Q. In the heyday of Volga river traffic how many barges plied the river? C. M. E.

A. There were approximately 25,000. By 1922, however, there were said to be not more than 5000.

Q. For how long a period in the winter time is freight service interrupted on the Great Lakes-St. Lawrence route? M. L.

A. Over a period of 20 years the length of the closed season on the Great Lakes-St. Lawrence route has been as follows: At the Soo, 141 days; at the Welland, 128 days; St. Lawrence River, 150 days.

Q. What is done with the money obtained from license tags? W. R. B.

A. In practically all instances the money obtained from automobile license tags is used for the maintenance of the various state highways.

Q. How long have house-boats been in use? C. N. O.

A. While palatial house-boats were used by the Roman emperors and have been in continuous use in China since early times, the house-boat of modern days first appeared in England about 1860, and came to this country late in the nineteenth century.

Q. When was the first brick road in the United States built? E. W. K.

A. The Bureau of Public Roads says that the first brick road of which they have a record was built in Charleston, W. Va., in 1872.

Q. What is a tramp vessel? J. S. N.

A. Steamers are called tramp steamers when they do not belong to any regular steamship company but are operated by individuals.

Q. Is it possible to telephone from a moving train? C. W. C.

A. Telephoning from a moving train is possible. Practical tests were made on the Chicago, Milwaukee and St. Paul Railroad, where communication was effected at speeds up to 60 miles an hour.

Q. Where was the golden spike driven that united the Central Pacific and Union Pacific? R. A. C.

A. The ceremony occurred at Promontory, Utah, May 10, 1869.

Q. How long was the Appian Way? M. M .

A. The Appian Way was constructed as a military road from Rome to Capua, a distance of about 132 miles, by the Emperor Appius Claudius about 312 B. C., and was later extended to Brundusium, a total of about 360 miles, and completed by Julius Caesar. It was known as the Queen of Roads and was adorned with statuary and pagan temples. It was built without regard to cost by slave labor and is said to have been in excellent condition 800 years after its completion. To build such a road to-day would cost in the neighborhood of $250,000 a mile.

Q. How many passengers can they carry on one of the New York subway trains? B. E. F.

A. The capacity of the subway trains is rated at 150 passengers per car or 1,500 for a ten-car train. It is possible that more passengers may be crowded on, however.

Q. I find it difficult to obtain information on the Chesapeake and Ohio Canal. Can you assist me? W. W. A.

A. The Chesapeake and Ohio Canal originated in a project formed by George Washington as early as 1774, to make the Potomac navigable from tidewater to Cumberland, and to connect it by common roads and portages with the Ohio. The War of the Revolution postponed the scheme, but it was taken up again in 1784, and

the company was incorporated. Of this company, Washington was President until his election as President of the United States.

Q. Where is the largest private telephone exchange in the United States? M. P.

A. The Hotel Pennsylvania, New York City, claims to have the largest private telephone exchange in the world. It requires a force of 70 employees to operate it on 24-hour-a-day service. The monthly average of outgoing calls is 100,000 not counting long distance calls.

Q. When and where was the first asphalt road laid in this country? G. W. T.

A. The asphalt road which was built in 1870 in front of the City Hall, Newark, New Jersey, might easily be called the first asphalt road. However, asphalt is a developed type of pavement and in 1867 one of the earliest roads was built with a tar binder which was the beginning of the type now called asphalt. This road was built at Prospect Park, Brooklyn, New York.

Q. How long did Holland work on the submarine before he was successful? E. T. M.

A. Holland's first boat was built in 1875 but it was not until 1900, after a series of severe tests, that the Government ordered the first one built for the Navy. Eight of the vessels were commissioned in 1903.

Q. Is a railroad to be built across the Sahara Desert? N. D.

A. The building of a railroad crossing the Sahara Desert has been talked of for years. The French Government has selected a route and if the railroad is constructed it will be operated by the Paris, Lyons, and Medilion Railroad.

Q. Are telephones installed along roadways for the use of motorists? E. K. P.

A. This has been tried from time to time since 1910, but usually it is found that the revenues from such a service are not adequate to meet the costs of operation. There are telephones available at such frequent intervals in garages, stores and farmers' homes that the need for highway telephones is negligible.

Q. How thick are the Atlantic cables? J. M.

A. The thickness of the cables across the Atlantic Ocean varies. One of the earliest cables was less than an inch in thickness, but modern cables sometimes exceed six inches including the coverings.

Q. Where was the first telegraph office? M. T. P.

A. In Washington, D. C. It was opened and operated by Samuel F. B. Morse in 1844.

Q. How much does a Pullman car cost? F. L. B.

A. The latest type Pullman cars cost from $80,000 to $100,000.

Q. Is the charter-party the owner or the one who charters a ship? L. C.

A. The charter-party is the written contract for the hire of a vessel for a stipulated voyage.

Q. How much did the Grand Central Station in New York City cost? G. N.

A. The cost of construction amounted to more than $75,000,000.

Q. How many men are required to sail a large sailing vessel? M. A.

A. The four-mast bark, the Great Republic, the largest clipper ever built, required a crew of 100 able seamen and 20 boys to sail her.

Q. What was the smallest boat that ever crossed the Atlantic? C. B. P.

A. The smallest boat to cross the Atlantic was the Spray of 9 ton register, which was taken around the world by Captain Slocum in 1898.

Q. Is there a railroad trestle from Florida to Havana? M. H.

A. The railroad over the Florida Keys does not extend to Cuba. It runs from the mainland to the city of Key West, being carried across the keys and channels for a distance of 100 miles by means of embankments and viaducts.

Q. How many parts comprise the modern telephone instrument? W. W.

A. It consists of 201 parts.

Q. When was the Twentieth Century Limited put in service? I W. T.

A. The Twentieth Century Limited made its first trip to accommodate travel to the World's Columbian Exposition in 1893.

Q. Where is the longest telephone cable that has been made? D. W. G.

A. The longest one installed is the cable between New York and Chicago. It is 861 miles long, and will carry 250 telephone conversations and 500 telegraph messages simultaneously.

Q. What countries have the greatest railroad mileage? J. M.

A. The United States has the greatest mileage; Russia is second; Canada, third.

Q. Is there an electric street car which manufactures its own electricity as it moves along? W. P.

A. The American Institute of Electrical Engineers says that it understands cars of this type are being put in operation. These cars are equipped with gasoline driven generators and electric motors for operation in districts in which the traffic does not warrant the installation of power plants and transmission lines.

Q. How is the term 1 per cent grade used on railroads? B. B.

A. It is used in reference to the incline of the track and means that there is a rise of one foot to each 100 feet of track.

Q. What is a documental vessel? W. F. A.

A. This term is applied to a vessel carrying official documents to establish her identity and her rights in trade. In the case of a vessel trading with foreign countries and engaging in the whale fisheries, this document is called a certificate of registry.

Q. When was the first Pullman car built? E. L. S.

A. In 1859 George Mortimer Pullman went to Chicago to engage in the novel business of building blocks of brick and stone buildings. His attention was drawn to the problem of sleeping cars, and he took two old day coaches of the Chicago & Alton Railway and transformed them into sleeping cars. These immediately became popular and there was a demand for more. In 1863 he built his first Pullman palace car which was the forerunner of all modern sleeping cars.

Q. Are there locks in the Suez Canal? J. H. J.

A. This canal is at sea level and contains no locks. It is 103 miles in length and connects the Mediterranean with the Red Sea.

Q. How much did Federal operation of the railroads cost the Government? D. H. D.

A. In a report of the Director General of Railroads, published in 1920, a table is presented showing that the total amount of money appropriated or necesary to be appropriated by the Government on account of the operation of the railroads was $1,886,322,885. Of

this amount, $1,031,899,451 covers items of indebtedness and investment, which will eventually be repaid to the Government

Q. Does the Alaskan Railroad connect Alaska with the United States? O. B.

A. The United States Government Railroad in Alaska does not connect Alaska with the United States. There is no railroad running from Alaska which does. To make the connection, it is necessary to go from Seattle by water.

Q. Are vessels required to sound foghorns? F. L.

A. In fog, mist or falling snow, steamers under way must sound blasts of four to six seconds duration at intervals not to exceed two minutes when at sea. On inland waters the fog horn must sound once a minute.

Q. How long is the Trans-Siberian railway? A. E. H.

A. The length of the Trans-Siberian railway from Leningrad to Vladivostok is 5,481 miles.

Q. How much did it cost to recondition the Leviathan? J. M.

A. The expense amounted to $8,000,000.

Q. Has the Alaskan Railroad been completed? A. H. G.

A. It was officially declared completed on July 15, 1923, when the late President Harding drove the golden spike at Nenana. The first official action toward building the road was taken in 1912 when President Taft appointed a commission to look into the feasibility of the undertaking.

Q. When was the first concrete road in the United States built? C. D.

A. The first concrete road of which the Bureau of Public Roads has a record, was built in Bellefountaine, Ohio, in 1893-94. There were 4,400 square yards put down.

Q. On what road did locomotive 999 run? L. J. D.

A. Locomotive 999 built in 1893, for the New York Central Railroad, was used on the Empire State Express. In May 1893 it made a record run during which it attained a speed of 112½ miles an hour. The locomotive has been withdrawn from service. This speed has never been attained by any other locomotive, although it could be if desired, not only by the powerful locomotives of the New York Central but by locomotives in service on other roads.

Q. What does it cost on an average to haul freight by truck? K. D. G.

A. Cost of transporting freight by truck is affected by so many varying conditions that an average rate is difficult to arrive at. However, the cost per ton mile in this country is estimated at 25 cents, while abroad the cost has been estimated at 12 cents, under favorable conditions

Q. When was the first railroad operated in Germany? R. W. V.

A. The first railway built in Germany was the Ludwigsbahn, connecting the cities of Nuremburg and Furth. It was about four miles long and was opened to traffic in December 1835.

Q. What was the first ship in the Navy to use electric motive power? R. G. C.

A. The aircraft carrier, U. S. S. Langley, formerly named the Jupiter and built for a collier, was the first electrically-driven ship in the Navy.

Q. When was it that a railroad track was laid on ice across the Susquehanna River, and trains passed over it, from shore to shore? J. A. McN.

A. From January 15 to 24, 1852, such a track was laid and 10,000 tons of freight were carried in 1,378 cars.

Q. What was the name of the ship from which the tea was thrown overboard in Boston in 1775? R. E. N.

A. Three ships were involved in the Boston Tea Party, the Eleanor, Beaver, and Dartmouth.

Q. How much of the coal mined in the United States is consumed by the railroads? A. G. D.

A. The Bureau of Railway Economics says that the railroads use about one-third of the coal output.

Q. Why are the telegraph poles in India made of iron? S. M.

A. The white ants destroy wooden telegraph poles, so many iron poles are used.

Q. What is meant by a common carrier? M. M. D.

A. It is a railroad or steamship company which carries or transports passengers or goods for hire.

Q. Are Pullman cars named according to a system? P. N.

A. A definite system has lately been adopted. For instance, sleeping cars have such names as Point Adams, East Aurora, etc. To a railroad man a Point car or an East car carries a meaning as to its capacity—the number of sections, compartments, drawing rooms, etc.

Q. What became of the Deutschland which came over to this country during the war? T. F. C.

A. The Deutschland was surrendered to France after the Armistice and was sunk by gunfire during target practice by the French Navy on June 18, 1921.

Q. What is the difference between a registered ship and an enrolled ship? M. E.

A. Shipping in foreign trade is registered, while that in coastwise trade is enrolled.

Q. What was the date on which the Government took over the railroads? S. K. P.

A. On December 26, 1917, President Wilson issued a proclamation, under the powers granted him by Congress on August 29, 1916, taking over for Federal control all the large railroads and many of the smaller lines. Congress passed the Federal Control Act in March following.

Q. How many years has it been possible to talk from New York to San Francisco by long distance? T. L.

A. The Chesapeake and Ohio Telephone Company says the long distance line between New York and San Francisco was first opened on January 25, 1915.

Q. On what day of the week are there the fewest steamship clearances? A. G.

A. There are fewer steamship and sailing vesel clearances on Monday than any other day of the week except Sunday.

Q. How is the gross tonnage of a vessel figured? L. J. P.

A. It is done by measuring the interior of the ship to ascertain its internal volume, and then dividing the total by 100 to obtain the tonnage. One hundred cubic feet is figured, according to this system of measuring, as being equal to one ton

Q. How many miles of submarine cables are there in the world? L. S. G.

A. There are 291,000 miles of submarine cables at the present time—enough to go around the globe thirteen times.

Q. Why is the Boston Post Road so-called? S. R. C.

A. A post road is so called from the fact that, in the early days, the United States mail was carried over it.

Q. Does a sailing vessel have the right of way over a steamer? P. L. H.

A. Under the regulation for preventing collisions it is provided that if a steamship and a sailing vesesel approach each other with the possibility of colliding the former must keep out of the way of the latter.

Q. Is there a law compelling railroads to do away with wooden passenger coaches and use steel cars only? J. D. G.

A. The Interstate Commerce Commission says that there is no law compelling the railroads to use steel passenger cars only. However, there is a Post Office regulation stating that steel cars must be used for mail purposes.

Q. How many passengers can the Leviathan and the Majestic carry? A. P.

A. The Majestic has accommodations for 5,100 people, while the Leviathan has room for 4,889.

Q. When one reads so much of Mediterranean cruises, I am wondering if you can tell me the name of the first steamer to make such a trip. A. N. S.

A. You will recall The Quaker City immortalized by Mark Twain in Innocents Abroad. This was the first steamer to attempt such a cruise.

Q. When were land grants first made to railroads? A. C. D.

A. The first grant of lands to aid in the construction of a railroad was the act of Congress of September 20, 1850, to the State of Illinois. A number of grants of lands to States followed as aids to railroads.

Q. How many miles of track did the New York subway have when it opened, and how much has it now? A. S.

A. The first New York subway opened October 27, 1904 with 62 miles of track. It now has 240 miles of track.

Q. Why are some companies railways and some railroads? F. P. D.

A. The words are used interchangeably. Some companies prefer one, some the other.

Q. Can trains pick up water while in motion? R. M.

A. Fast trains do take water while in motion. There is a long trough between the rails in certain places along the track and there is a small spout under the engine which slopes to the front. The fireman lowers this when the engine approaches a water trough and the water is forced by the speed of the train up the spout into the tank.

Q. Where do the Twentieth Century Limiteds pass each other? R. H. C.

A. The New York Central Railroad Company says that these New York-Chicago trains pass each other between Bayview, New York, and Buffalo, New York.

Q. When were ferry boats first known? W. B. A.

A. There is mention of one in the Bible. Following the death of his son Absalom, King David went into retirement and after he was persuaded to return to his house, a ferry boat was sent to bring over the king's household. See Second Samuel, nineteenth chapter.

Q. Why do vessels go around Cape Horn instead of taking a cut through the Straits of Magellan? A. C. M.

A. Though Magellan Strait is generally free from shoals and other obstructions, its west portion is subject to impetuous currents and to rough and squally weather, rendering the passage unsafe for sailing vessels. This is the reason that they generally pass around Cape Horn.

LXVI

WAR

Q. What was the cost of the World War per day? L. D.

A. The net cost of the war per day to the United States was $27,600,000. Including loans to the Allies, the sum rises to $38,500,000 per day. The total cost per day to all involved in the war was $107,000,000.

Q. In what battle was the artillery fire the heaviest? H. A. C.

A. In the Battle of St. Mihiel, the artillery fired more than 1,000,000 shells in four hours. This is the most intense concentration of artillery fire in history.

Q. Did either man or beast escape in the Custer Massacre? J. J.

A. Of the men who rode into battle under Custer, no man lived to tell the tale of the massacre, but one horse escaped, and after its death it was stuffed and mounted. It is now at Fort Riley, Kansas.

Q. Is General Pershing the only Army officer who has skipped any files without the formality of being promoted to them? M. D.

A. The War Department says that several other Army officers have skipped more than one file at a time.

Q. How many men lost their lives in the World War and what country suffered most? G. G.

A. The most recent calculations completed after research among records of the governments of fifteen belligerent nations show that 8,461,595 men lost their lives and 21,099,935 were wounded during the war. Roumania suffered the greatest average loss, 44.76 per cent of her men under arms.

Q. Did General Grant demand the surrender of General Lee's sword? G. V. G.

A. Contrary to the popular belief this incident did not occur. In the possession of Robert Underwood Johnson at the time that he prepared Grant's Memoirs were General Grant's signed words in his own handwriting: "There was no demand made for General Lee's sword and no tender of it."

Q. Was liquid fire ever used in warfare before the World War?

A. An inflammable and destructive compound was used by the Byzantine Greeks. It was poured from caldrons, ladles, and flung in pots, phials, and barrels. The secret of the ingredients used was carefully guarded but it appears that naphtha, sulphur, and nitre entered into its composition.

Q. When did Caesar use the expression veni, vidi, vici? A. F.

A. This epigrammatic statement was made in his account of an expedition into Pontus. It was not in connection with the Gallic Wars, as it is often ascribed.

Q. How long was the front in the World War? S. C.

A. The total front in the World War consisted of approximately four hundred miles. The American troops held about 25 per cent of it.

Q. I have heard that Napoleon's return from Moscow to Paris was accomplished in record-breaking time. How long did it take? C. L.

A. On the retreat from Moscow, Napoleon traveled from near Vilna to Paris in 312 hours, a journey of about 1,400 miles. This was an average of almost five miles an hour, and was remarkable considering condition of roads and weather.

Q. How many Americans gave their lives to gain independence for America? M. A. S.

A. During the Revolutionary War, 7,184 Americans were killed or died of wounds received in action. The English lost 9,073 troops.

Q. What was the cost of occupation charged by Germany to France in 1871? W. T.

A. The total cost of occupation charged was approximately $68,-147,500.

Q. How many battles were fought during the Civil War? R. C.

A. The number of engagements entered in the Government's Chronological List of Battles exceeds 2,200. An alphabetical list of battles compiled at the Bureau of Pensions, including such minor actions and skirmishes as seemed worthy of incorporation, contains over 6,800 separate affairs.

Q. At the Battle of Jutland, who was in command of the British, and who in command of the Germans? T. S.

A. The British were in command of Vice-Admiral Beatty, who was on his way to join the main fleet of Sir John Jellicoe when he encountered the Germans. The German fleet was in charge of Admirals Von Hipper and Von Scheer.

Q. How near did the Germans get to Paris? W. R. H.

A. On September 5, 1914, the German line ran through Meaux, and there were outposts in front of the main line which came as near as fourteen miles to Paris.

Q. Who were the first Americans killed at the battles of Concord and Lexington? K. F.

A. Captain Isaac Davis and private Abner Hosmer are said to have been the first to fall at Concord and private James Hayward at Lexington.

Q. How many Irishmen fought for England in the World War? E. T.

A. A total of 275,592 Irishmen from Ireland served in the British army and navy, according to the Irish National Bureau. This was 6.5 per cent of Ireland's total population.

Q. Where did the name The Lost Cause, as applied to the Confederacy, originate? W. R.

A. This phrase first became current as the title of a history of the Civil War by E. A. Pollard, published in 1886. It was used as an expressive designation for the purposes and aims which the southern people vainly sought to realize in the permanent establishment of the Confederate States of America.

Q. When did trench warfare begin in the World War? S. A. E.

A. During their advance to the Marne, the Germans left sappers behind them to entrench a position on the Aisne to which they could return if necessary. After their retreat from the Marne, following the first phase of the battle of the Aisne, September 18, 1914, they took up their position behind the trenches, and the trench warfare, which featured the World War, began.

Q. Was conscription or draft used in the colonies during the Revolutionary War? G. W. R.

A. Conscription was not resorted to in the Revolutionary War. The first bill of this kind was introduced into an American Con-

gress by the Conscription Act of October 27, 1814, under the auspices of the then Secretary of War, James Monroe. This was not carried out..

Q. When were troops first used in thin lines? R. W.

A. The earliest record of fighting in line formation was the system employed by Frederick the Great. He formed his troops in lines 4 deep. The French armies during the Napoleonic wars used lines 3 deep and at the time of the Battle of Waterloo, a double line was customary.

Q. When did France lose Canada? S. J. D.

A. France lost Canada with the final battle of the Heights of Abraham in 1759.

Q. What was decided about the battleship Maine? Was it blown up from the outside? F. F.

A. The Naval Court of Inquiry appointed by the United States Government reported March 22, 1898, that, "the Maine was destroyed by the explosion of a submarine mine, which caused the partial explosion of two or more of her forward magazines." The report of 1911 of the committee investigating the wreck of the Maine after it had been raised, confirmed the first report, adding that responsibility could not be fixed on any party or parties.

Q. Of all the American soldiers who went overseas, how many were actually enaged in battle? W. A. D.

A. Two out of every three American soldiers who reached France went to the battle sectors. Those who saw foreign service were 2,084,000 and of these 1,390,000 saw active service at the front.

Q. How many Indians served during the World War? C. J. S.

A. The Report of Commissioner of Indian Affairs for 1918 estimated that over 8000 Indians entered some branch of military service. Of this number approximately 6500 served in the Army, 1000 in the Navy and 500 in other military work. It is significant that fully 6000 entered by enlistment. The total number of Indians registered was 17,313.

Q. Why is the date August 20, 1866, given as the end of the Civil War? H. B.

A. General Lee surrendered to General Grant at Appomatox Court House on April 9, 1865, and active hostilities ceased on May 31, when General Hood surrendered to General Davidson, at Natchez, but the war was not officially ended until August 20, 1866, when the Union troops were demobilized.

Q. Did the United States Government have to pay France for the ground in which American soldiers were interred? B. F.

A. The War Department says that during the war France set aside sufficient ground for the burial of American soldiers. After the war, however, the American dead were concentrated in American cemeteries for which the American Government is now paying. The French Government is purchasing this land from its owners and the American Government is reimbursing it.

Q. Where was the powder made that was used during the Revolutionary War? W. F.

A. Every one of the thirteen States except Georgia and Delaware made some powder during the Revolution. The most important mills were located in Massachusetts, New York, Connecticut, New Jersey and Pennsylvania.

Q. Which State sent the greatest number of Confederate soldiers into action? W. A. R.

A. Virginia furnished the largest number of soldiers to the Confederate army. We do not say that this was in proportion to popula-

tion, for we believe that North Carolina claims to have sent more soldiers in proportion to military population than any other State.

Q. How did the English acquire the Rock of Gibraltar? F. F. F.

A. The Rock of Gibraltar was captured by combined Dutch and English forces, July 24, 1704, and ceded to Great Britain by the Treaty of Utrecht in 1713. Spain set out to recapture it in 1779, and a siege lasting three years, seven months, twelve days followed. The British withstood the siege successfully and the Peace of 1783 secured the Rock to Great Britain.

Q. When did the American troops actually get into action? T. S.

A. The first actual participation by the American troops in the World War was October 21, 1917 when the First Division entered the Luneville Sector near Nancy.

Q. What is the meaning of the expression "I have met my Waterloo"? M. V. V.

A. When Napoleon fought the Battle of Waterloo, he met his greatest defeat. It was a decisive one which marked the beginning of the end of his career. From this circumstance, we use the word Waterloo to signify that one has met defeat in so decisive a way as to preclude the hope of future success.

Q. When did the American flag finally leave the Rhine? W. O. H.

A. The final lowering of the American flag on the Rhine occurred July 10, 1923.

Q. What caused the Prussian-Austrian War? M. G.

A. The immediate cause of the Austrian-Prussian War, also known as the 7 Weeks' War, was the Schleswig-Holstein question. It resulted indirectly from the long rivalry between Austria and Prussia. The conflict was the culmination of the plan of Bismarck to force Austria out of the German Confederation, and to make way for a new Germany under Prussian leadership.

Q. What was the comparative effect of the World War on the population of France, Germany, and England? N. H. T.

A. According to figures recently made public by Gaston Cadoux, former President of the Paris Statistical Society, one man in every 28 was killed in France, one in 35 in Germany, and not quite one in 66 in England.

Q. In what war did France and England fight together before the World War? I. M. C.

A. France and England were allied against Russia in the Crimean War, 1854-1856.

Q. Please give a list of the 15 decisive battles of the world to date. M. R.

A. They are: Battle of Marathon, B. C. 490; the defeat of the Athenians at Syracuse, B. C. 413; the victory of Arminius over the Roman Legions under Varus, A. D. 9; Battle of Hastings, 1066; Joan of Arc's victory over the English at Orleans, 1429; the defeat of the Spanish Armada, 1588; Battle of Blenheim, 1704; Battle of Pultowa, 1709; the victory of the Americans over Burgoyne at Saratoga, 1777; Battle of Valmy, 1792; Battle of Waterloo, 1815; Gettysburg, 1863; Manila, 1898; Marne, 1914; Verdun, 1916.

Q. What were the casualties and what was the fate of the Light Brigade? E. V. D. W.

A. The order for the charge read as follows: "Lord Raglan wishes the cavalry to advance rapidly to the front and to try to prevent the enemy carrying away the guns. French cavalry is on your left." The Light Brigade advanced straight to its front and soon came under fire from the guns

on both flanks. Five mniutes later the guns in front got in their fire. Only two formed bodies of the Light Brigade found their way back. The Brigade lost 247 men and 497 horses out of a total strength of 673 engaged in the charge which, from first to last, occupied 20 minutes.

Q. How many States (Union) were represented in the Battle of Gettysburg? V. R. S.

A. Hay and Nicolay say that "citizen soldiery from seventeen of the loyal States had taken part in the conflict on the Union side."

Q. What was the famous Ems Dispatch? I. E. R.

A. Ems Dispatch is the historical designation of the communication which precipitated the Franco-German War of 1870. The French ambassador asked the King of Prussia to make a formal declaration that no Hohenzollern Prince would be permitted to accept the throne of Spain. The King refused and communicated the facts in a message from Ems to Prince Bismarck. Bismarck used it by giving to the press abridged features of the French demand which served to inflame the Germans against France and war was declared.

Q. Was there such a thing as propaganda in connection with the American Revolution?

A. It is probable that there has been what we now know as propaganda in connection with every important movement in human history. As to the American Revolution, for example, Thomas Paine is said to have made it his boast that he brought about the revolution by his pamphlet, Common Sense.

Q. What is the story about the Sepoy Rebellion being caused by the Sepoys being forced to eat meat? J. O. H.

A. Sepoys are the native British Indian soldiers. In religion they are for the most part Mohammedan and Brahman. One considers the cow sacred, the other is not permitted to eat pork. The Enfield rifles, which were put in the hands of the Sepoys had cartridges greased with tallow and lard. It was necessary for the soldiers to bite these cartridges with their teeth. On May 10, 1857, the Sepoys mutinied in Meerut, when native troops rose and liberated some of their comrades who had been imprisoned for refusing to handle the English cartridges.

Q. How many calls for troops were made by the Government during the Civil War? V. A. C.

A. President Lincoln made nine calls for troops during the Civil War.

Q. Which caused more casualties during the War, artillery fire or rifle fire? E. S.

A. The records show that of the known causalties, the rifle fire produced more than the artillery fire. However, if the total number of unknown casualty records were caused by artillery fire, this would swing the balance in the favor of the artillery. There are many casualties of which there is no record as to the cause. For instance, a grenade wound resembles an artillery shell wound; consequently, the War Department has never been able to determine which fire has produced more casualties.

Q. What soldiers got to the Embassy first during the Boxer Rebellion? T. L. S.

A. The 1st Sikhs of the British Indian Army were the first soldiers to come to the relief of the foreigners who had fortified themselves as well as possible in the British Legation.

Q. How were the people of the United States divided as to nationality at the time of the Revolutionary War, and in 1820? R. L.

A. There is no record of the nationalities of the inhabitants of

the colonies. They were, however, mostly British, Irish, Dutch and German, with a few French, Portuguese, and Swedes. In 1820, immigrants from the United Kingdom were 5,024; Germans, 968; French 371; Spaniards, 139, with small numbers of other nationalities.

Q. Were any of the locomotives sent to France during the war sent ready for use? V. Q. S.

A. For the first time in history, American locomotives were shipped across the Atlantic stacked in ships on their own wheels. Upon the arrival of the first consignment, General Pershing cabled "Shipment of erected locomotives transmitted on the Feltore very satisfactory....." Five hundred and fifty-three locomotives went over in this manner.

Q. What proportion of the earth's area was directly involved in the World War? R. D. R.

A. Of Europe's approximately 4,000,000 square miles of territory, seven-eighths was directly involved in the conflict. For Africa the fraction is larger, 32 out of 33 parts having been in belligerency. Asia with her 17,000,000 square miles, shows twenty-four twenty-fifths of her territory involved, while Australia was completely in the throes of war. In North America four-fifths of an area of nearly 10,000,000 square miles is occupied by two of the great countries that were in the struggle. Only about one-half of South America remained nominally neutral. Therefore of the 52,000,000 square miles of the globe's area, exclusive of Antarctica, more than 45,000,000 square miles belonged to the belligerent nations, and the remaining few million were more or less affected.

Q. What nationalities were represented in the American Army at the time of the Revolution? D. G. C.

A. The main nationalities represented were English, Scotch, Irish, Welsh and French.

Q. Why was Bunker Hill of Revolutionary fame so-called? M. J.

A. The Massachusetts Historical Society says that Charles Bunker, an early settler of Charlestown, who died in 1664, owned about ten acres of land on the highest hill in that town, which has ever since been known as Bunker's Hill. The Battle, though not fought on his pasture, took place in its neighborhood and carried the name of Bunker with it.

Q. In the Russo-Japanese War, which nation had the longest range guns? F. E. G.

A. The guns of the Japanese Navy were superior in range to those of the Russian. The Japanese Navy practiced at long range from 10,000 to 12,000 yards; generally opened fire on the Russian ships at 10,000 yards. The Russian Army was equipped with a standard field gun superior in range to the Arasaka gun used by the Japanese. It was capable of accuracy, at a range of from 2 to 3 miles, while the Japanese were forced to bring their field pieces within 2 miles or less to obtain an equal degree of accuracy.

Q. What State got the most Congressional Medals for the World War? C. W. R.

A. New York men received the greatest number. The following is a list of several of the States which stood at the top; New York 14; Illinois, 10; California, 7; New Jersey, 7; South Carolina, 6; Tennessee, 6.

Q. How much does it cost the Government to bring back the body of an American soldier? H. B.

A. It has been estimated that the average cost to the American Government for the transportation of a soldier's body from France to a cemetery in this country is $500.

Q. When the British evacuated Boston, did Washington and Howe

come to an agreement that the city was not to be bombarded? C. E. M.

A. Some historians state that shortly before the evacuation of Boston by the British, General Howe threatened to burn the city if any attempt of bombardment were made. Unofficially and informally a sort of agreement was entered into between the opposing forces that if the British were not attacked on embarkation, they would leave the town substantially as it was. There was no formal communication between Washington and Howe, but this was an understanding. Washington also from want of ammunition was obliged to use his artillery sparingly.

Q. Were there any lives of American soldiers lost during the transport to Europe during the World War, except by disease? H. H. S.

A. No lives were lost by the United States Cruisers and Transport Force in carrying the soldiers. One cargo boat was torpedoed and sunk with a loss of 102 army men, and 622 lives of American soldiers were lost on British ships. The total number of lives lost, U. S. Troops, being transported to Europe, amounted to 724.

Q. Who was in charge of the Army's operations during the Johnstown flood? S. R. W.

A. General D. H. Hastings, Adjutant-General of Pennsylvania, was in charge of the troops sent to Johnstown at the time of the flood. The total loss of lives in this disaster is estimated at 2,205.

Q. Was the United States a signer of the treaty which Germany violated when she invaded Belguim? E. L.

A. The United States was not signatory to the treaty guaranteeing the neutrality of Belgium, which was signed April 19, 1839, by the following nations: Austria, France, Great Britain, Prussia, Russia, Belgium.

Q. In the early days of the war, French aviators carried as part of their equipment, a bag of bricks. Why? W. B. A.

A. Bricks were carried in the hope that a pilot might be able to hurl a brick into the propeller of the enemy's aeroplane. Two German machines were thus brought down.

Q. Why were there no Generals between Washington and Grant?

A. The rank was created by Congress, March 3, 1799, for George Washington. He died soon after, the office remained vacant, and in 1802 was abolished. It was not revived until 1866 for U. S. Grant. Upon his accession to the Presidency in 1869, W. T. Sherman was made General. When he retired in 1883 the rank lapsed until it was revived for P. H. Sheridan in 1888 and again in 1917 for J. J. Pershing.

Q. When was the first military execution in the American Army? C. C. H.

A. A conspiracy of the British officials and Loyalists of New York was made in 1776 to end the Revolutionary War by the murder or capture of its leaders, and the seizure or destruction of its supplies. Washington was to be taken alive and delivered to Sir William Howe. Two guards were bribed, but a third pretended to join the plot and exposed it instead. One of the treacherous guards was named Thomas Hickey. He was hanged June 27, 1776, the first military execution in the American army.

Q. When were khaki uniforms first worn by our Army? A. M.

A. When volunteer troops were called for the Spanish American War it was found that the heavy dark blue uniform was too warm for service in the tropics. A service uniform of khaki cloth was therefore introduced. In 1902 the whole dress regulation of the Army was changed.

LXVII

WEATHER

Q. In what part of the United States does it rain the most? H. L. R.

A. The records show that the largest average annual amount of precipitation in the United States proper is received at points near the Pacific Coast in Washintgon and Oregon. The Weather Bureau station at Glenora, Oregon, shows an average annual fall of 131.54 inches for twenty-five years. Larger rainfalls are received at many points outside of the United States. A number of stations in the Hawaiian Islands have an average of over 300 inches a year. The one receiving the largest fall is Mount Waialeale, with a record of several years, shows an annual average of 476 inches.

Q. What is the difference between a fog and a cloud? A. S.

A. It is a difference of height from the earth. Fog is a cloud on the earth; cloud is a fog in the sky.

Q. What is the dryest State in the Union? L. C. R.

A. The records show that the smallest annual amount of precipitation in the United States is received in the southeastern portion of California, and the western portion of Arizona.

Q. How much does the precipitation of snow and rain amount to? W. J. H.

A. The world average is 16,000,000 tons a second.

Q. What causes tornadoes? L. S.

A. A tornado is the result of the running together of air masses of widely varying temperatures.

Q. Do any people live in places as cold as it is at the North Pole? D. N. E.

A. Stefansson, the Arctic explorer, is authority for the statement that people live in places even colder than the region of the North Pole. The lowest temperature at the North Pole is about 60° below zero, while 70° below has been registered in North Dakota, and at Verkhoyansk, Siberia, the thermometer has registered as low as between 90° and 100° below zero.

Q. Is it true that thunderstorms never occur at the poles? W. B. W.

A. The British Meteorological Office has collected much data on thunderstorms, and in its recent report stated that thunderstorms occur about once in 10 years at the poles. In Java, on the other hand, they occur on an average of 223 days of the year. About 16,000,000 occur annually throughout the world.

Q. The old-timers all say we will have a hard winter because the muskrats have heavy pelts, the squirrels are laying up an unusually large store of nuts, and ducks have been going South earlier than usual. Is this true? F. G. W.

A. The Weather Bureau says that none of these things is any indication of how severe the weather will be. The unusual

thickness of the muskrat's fur is probably due to a good food supply this year. A squirrel gathers all the nuts he can, and the crop is good in many sections. Ducks have been unusually abundant for several years past and hence the early flights have been noticed more than usual.

Q. Do waterspouts ever appear on land? G. W. C.

A. A waterspout is a local vorticular storm occurring over a water surface, and in origin and form is similar to a tornado over the land.

Q. Why does a cloud float? D. A.

A. In still air a cloud will sink to lower levels at the rate of 8 feet per minute. Average cloud droplets are but one eight-millionth of the size of an ordinary raindrop, so it takes but a slight ascending current of air to keep such moisture floating.

Q. Which is colder, the North Pole or the South Pole? G. M. T.

A. The South Pole is colder than the North Pole, due to the very considerable elevation above sea level at this point. The North Pole is in the Polar sea.

Q. How much air does an individual breathe in a day? S. O.

A. It has been estimated that a person at rest inhales daily nearly 700,000 cubic inches of air. This estimate is a basis for planning the size and ventilation of public halls. A person working would inhale a larger amount of air. The average person inhales about 2,600 gallons of air every 24 hours.

Q. How high does the earth's atmosphere extend? C. J.

A. The exact height of the earth's atmosphere is not known. Some estimates based on the calculated heights of shooting stars when they first become luminous, place the limit at which atmosphere has a density sufficient to produce any observable effects, at about 200 miles. Very little oxygen is present in the air at a height of 110 kilometers (68.31 miles). There is none at a height of 120 kilometers (74.52 miles).

Q. Is there a place on the ocean where it rains constantly? V. M.

A. There is a tract of considerable extent between latitude 4° and 10° N. and longitude 18° and 23° W. that is known to sailors as the rainy sea. It is visited by almost constant storms accompanied by lightning and thunder with violent falls of rain.

Q. Is it true that a hard battle will bring on a storm? G. V. R.

A. The Weather Bureau says that rain often follows a battle, but that the battle does not bring on the storm. The movements of troops that precede a battle must generally be carried out in fair weather, as dry roads are an important factor in such movements. As these preliminaries often take several days, the end of a dry spell of average duration is quite likely to be reached by the time the engagement is fairly begun, and rain will then be due in accordance with the normal program of nature.

Q. What is the weight of an inch of rainfall per acre? C. E.. M

A. An inch of rain means about 100 tons of water to every acre.

Q. What is a blizzard? S. W.

A. The term blizzard does not apply unless winds are accompanied by fine cutting ice particles. The wind in a blizzard usually obtains a velocity of 40 or 50 miles an hour and the temperature is sometimes 20 to 30 degrees below zero.

Q. Are people more apt to be overcome by heat on a dry day or on a damp day? C. H. M.

A. At the same temperature, moist air is more productive of heat prostration than is dry air.

Q. What gives rain its peculiar odor? G. G. W.

A. Rain has no odor but in falling purifies the air. Often rain is produced by electrical charges in the air, and these charges produce a gas called ozone which has a delightful fresh odor.

Q. Can a mirage be photographed? J. M.

A. The Bureau of Standards says that it believes that a mirage can be photographed if clearly visible. The Weather Bureau has not taken any photographs of a mirage and it does not know of any photographs that are considered good. There have been some poor ones made by individuals.

Q. What country began the scientific mapping of the winds of the world? D. T.

A. This was begun in Germany at the beginning of the 19th century. England and America soon adopted the custom of mapping the winds.

Q. What makes the funnel to a cyclone? N. P. H.

A. The funnel of a cyclone is due to the whirling motion of the winds. The cloud that accompanies the tornado is formed of dust, water and debris. A partial vacuum is produced in the center of the whirl and the low temperature which results generates a huge trunk of cloud which makes the tube visible; thus the air from the surface of the earth as it rises, instead of rising vertically is whirled around and brought in contact with the low temperature in the center. The moisture is condensed and the cloud thus formed.

Q. What makes frost pictures appear on window panes? F. J. D.

A. When the air in a room has a dew point below freezing temperature then the moisture is deposited on the window pane directly in the form of spiculae or slender prisms of ice and it is under these circumstances that the most delicate frost figures are formed.

Q. How large do drops of water have to be to be called rain? A. W. A.

A. Drops of water formed in the atmosphere by condensation of aqueous vapor and falling rapidly by virtue of their weight are known as rain. Smaller, finer particles falling more slowly, are known as mist or fog. Drops of rain one-fourth to three-tenths of an inch in diameter have been measured. The smallest drops of rain are, however, one-twentieth of an inch in diameter.

Q. What State in the Union is the windiest? G. W.

A. This has never been accurately determined, and it is probably impossible to make a positive statement. However, it is quite probable that Oklahoma as a whole is the windiest State in the Union. This is due to the fact that the winds are rather constant at moderately high velocities during the entire year in this State; in many other sections the wind may at times average higher than in Oklahoma. Nevertheless, they are not so constant or cover so completely the entire State.

Q. Can one estimate how far away a flash of lightning is? W. T. S.

A. One can tell quite accurately how far away the flash of lightning is by taking a watch and noting the number of seconds which elapse between the flash of lightning and the time when one hears the roll of thunder. If as much as five seconds elapse it is about a mile away, since sound travels only about 1100 feet per second, and there are 5280 feet in a mile.

Q. Do sandstorms occur on the American deserts? J. B. W.

A. In the southwestern parts of the United States, particularly in

the interior portions of southern California and southern Arizona, there are extensive desert regions where sandstorms are likely to occur. Some portions of Nevada, and other parts of the great basin lying between the Rockies and the Sierra Nevadas are also visited by sandstorms.

Q. Will frost occur when it is cloudy? D. T. E.

A. Frost occurs when there is a clear sky and little wind. Heavy, low clouds act as a blanket, preventing the earth from giving off its heat. A moderate wind is generally an effective deterrent of frost, since it keeps a thin layer of cold air from forming near the ground, mixing the warmer air of the upper regions with it.

Q. What is the maximum size of hailstones? H. M. S.

A. The maximum possible size of hailstones can not be positively stated, but stones larger than a man's fist and weighing more than a pound have several times been reported. During a hail storm in Natal on April 17, 1874, stones fell that weighed one and one-half pounds. Hailstones 14 inches in circumference fell in New South Wales in February, 1847.

Q. Since air cannot be seen, what is it that is visible when one looks over a street on a hot day or looks over a hot stove? N. L.

A. The Bureau of Standards says refraction or bending of the light rays caused by a change in the index of refraction of the air through heat is what produces the apparent motion.

Q. Does dew fall? J. P.

A. Three concurrent sources of dew are recognized: the condensation of the moisture of the atmosphere (when dew may be said to fall); the condensation of watery vapor arising from the earth (when dew rises) and the moisture exhaled by plants.

Q. In what country do the most tornadoes occur? C. R.

A. This type of storm is more common in the interior of North America east of the Rocky Mountains than anywhere else in the world.

Q. What is the temperature of Quito situated on the equator? S. J. M.

A. The climate at the equator varies with the altitude above the sea level and nearness to the sea. At Quito on the equator, 9,350 feet above sea level, the morning temperature is 47°—the midday temperature is 66°. This varies very little with the season.

Q. Why are London fogs less severe than they used to be? F. W.

A. It is probably due to the increasing use of electricity in the place of soft coal. London fog is dry fog due principally to the condensation of aqueous vapor upon the innumerable particles floating in the air in the smoke from soft coal fires.

Q. Does sound travel faster when the weather is warm? E. M.

A. In undisturbed air, at a temperature of 32° F. the velocity of sound is approximately 1,090 feet per second. The velocity increases about one foot a second for each degree as the temperature rises.

Q. In what part of the United States are the winds most constant? A. W.

A. It is probable that the winds blow most constantly at a considerable speed along the coast of central California, notably at Point Reyes Light, a short distance from San Francisco, where the winds are generally speaking the highest recorded in the United States. Over interior portions of the country the winds are quite constant over the Great Plains from Kansas southward to interior Texas.

Q. Why does snow crunch when walked upon on a very cold day? K. O.

A. On a very cold day the snow particles are hard, frozen, and dry, and you hear a crunching sound in walking over it because the particles are rubbed together and broken. On the other hand, when the temperature is above freezing the particles of snow are soft and packed together, and you hear no crunching sound.

Q. What causes monsoons? E. J. D.

A. A monsoon is a wind that blows along the Asiatic coast of the Pacific over the extent of about 40° latitude, in winter from the northeast (dry monsoon), and in summer more violently from the southwest (wet monsoon). The wind is due to the difference of pressure between areas of land and sea which are primarily caused by seasonal difference of temperature.

Q. Where in the world is the rainfall heaviest? A. C.

A. So far as known at the present time, the heaviest precipitation occurs on the southern slopes of the Himalaya Mountains in northern India. Here during the monsoon period, usually from May to September, inclusive, the heaviest rainfall has been recorded. At Cherrapunji in this region, the average annual precipitation is about forty feet or slightly less than five hundred inches.

Q. Did California ever have a tropical climate? R. R. B.

A. In the Pleistocene period, California was a tropical jungle roamed by the largest land mammals.

Q. Is stale air harder to heat than fresh air? P. C. T.

A. There is no appreciable difference in the amount of heat absorbed. Stale air may feel colder than fresh air because of the smaller response in vitality that it gives.

Q. I have seen it stated that in some parts of the world there are lightning flashes continually. Is this correct? H. K.

A. The Meteorological Office of the British Government states that the world experiences annually 16,000,000 thunder storms or an average of 44,000 a day and that scarcely a second passes, year in, year out, winter and summer, that there are not at least 100 lightning flashes somewhere in the world.

Q. What is the difference in the air pressure at street level and at the top of the Woolworth Building in New York City? E. M. J.

A. Atmospheric pressure varies with temperature. The pressure at sea level has been estimated at 14.7 pounds per square inch. At a height of 1-4 mile or 1,320 feet, it is 14.02 pounds per square inch. The pressure at the top of the Woolworth Building would be somewhere around 14.3 pounds per square inch.

Q. Does thunder always follow lightning? F. H.

A. Lightning, particularly heat lightning, may occur so far away from the observer that the thunder is not audible; on the other hand, the lightning flash may be so close to the observer that, so far as he can tell, the lightning and the thunder occur simultaneously. If the lightning is at any distance from the observer, however, then, if thunder is heard at all, it always occurs after the flash is seen, the interval of time between the two being greater the greater the distance at which the flash took place. This is because the speed of light is so great (186,330 miles per second) that the flash is seen practically at the same instant it occurs, whereas the speed of sound is not very great (around 1100 feet per second).

Q. When does a rainstorm become a cloudburst? R. C. H.

A. A cloudburst generally connotes six or more inches of rain-

fall and at the rate of 10 or more inches per hour.

Q. What part of the United States gets the most snow? M. B.

A. The heaviest snowfalls in the United States occur in the central portions of the Sierra Nevada of California. It is impossible to state the exact locality having the heaviest snowfall, but amounts for a single season above 700 inches have been reported from the station at Summit on the line of the Southern Pacific Railroad, running between Sacramento, California, and Reno, Nevada. The heaviest snowfall recorded there occurred in the winter of 1879-80 and was 783 inches.

Q. Why are frozen raindrops of so many different shapes? N. B. L.

A. The chief reason for this is the fact that partially frozen drops often collide and stick together, giving shapes that vary with the number and size of the adhering drops, and the extent to which they were frozen when they collided. Entirely liquid drops on collision form, if they unite, only one larger but still spherical drop.

Q. Does the heating of buildings in cities in the winter time, raise the outdoor temperature? F. L. C.

A. It is believed that the average temperature of a large city is increased by 1° F. to possibly 4° F. by the burning of fuel, especially during the stillest and coldest weather. This condition lasts as long as the fuel is being burned in considerable amount.

Q. What is black frost? A. D. N.

A. Black frost is frost or cold so intense as to blacken vegetation.

Q. What is dew? F. P.

A. Dew is moisture condensed from the atmosphere, including the air contained in soil, and gathered in small drops on the surface of plants and other bodies, which radiate heat well, but conduct it badly. Frost is formed on nights when the dew point is below freezing point.

Q. Is the atmosphere ever dustless? R. M.

A. Experiments made by Dr. Aitken indicate that there is no dustless atmosphere. Air with less than 100 particles of dust per cubic centimetre is rarely found. In most country places the numbers rise to thousands, and in cities to as high as 100,000 to 150,000 particles per cubic centimetre.

Q. What is the opinion of medical authorities with regard to the healthfulness of night air? D. K. T.

A. Night air is especially healthful. In spite of the theories of our grandparents, it is just as healthful as day air. It is even more purifying, for it is less laden with dust and humidity. Cold air, moreover, according to recent experiments, has been found to be even more health-giving than warm air.

Q. At what distance are storm clouds visible to the naked eye? A. B. M.

A. The distance at which storm clouds are visible to the naked eye varies greatly with one's position and the kind of clouds. If a person is in an open flat country and the clouds are of the broad stratus or layer type, he may not see them more than 30 or 40 miles away, and even not half so far if the air tends to be misty or hazy. On the other hand, when the air is quite clear a well-developed cumulo-nimbus, or thunderstorm, cloud may, in favorable circumstances, be seen when more than 100 miles away.

Q. When was the coldest winter or record? J. M. T.

A. The coldest winter of which there is record was in the year

1709 when in Europe frost penetrated three yards in the ground, and the Adriatic was frozen over, as was also the coast of the Mediterranean.

Q. Is there any way of predicting a frost? C. J. J.

A. Frost will never occur when there is a wind blowing or when there are heavy clouds near the earth. A clear still night soon after a rain in the frost season is most apt to produce a frost.

Q. Why does the wind blow in gusts? B. C.

A. This is owing to the friction between the air and the surface of the earth, and to the obstacles to the wind, such as houses, trees, and many other things. These things, friction and obstacles, cause the lower air to be turbulent, and more or less roll and tumble, hence to blow in gusts, as we say.

Q. What State has the longest period of below zero weather? E. W. W.

A. The Weather Bureau says that no exact compilation has been made of data along the line of your inquiry, but it is probably safe to say that the State of North Dakota has temperatures below zero for a longer period each year than other States in the Union, as a whole.

Q. What are the little dolls called whose dresses are blue in dry weather and violet in wet weather? C. H.

A. These are called hygroscopes.

Q. How many climate belts are there in the United States? E. K. P.

A. There are nine climate belts in the United States, each being marked by a range of five degrees in mean annual temperature.

Q. What makes hills or mountains in the distance look blue? N. M.

A. The air between you and the hills is filled with countless particles of dust and other things and what you see is not blue hills, but the reflection of the sun's rays from the little particles in the air, the color being due to the angle at which the light from the sun strikes the particles and to the character of the particles.

Q. Why do we get our coldest weather after the sun begins to travel north? M. M. T.

A. While it is true that in the northern hemisphere the maximum difference between the heat lost at night and that gained by day occurs about December 21, it is also true that there is more lost at night than gained by day for sometime after that. In other words, one might say that the northern hemisphere cools off most rapidly about December 21, but still continues to cool off after that time, though more slowly.

Q. When is Indian Summer? C. L.

A. Indian Summer is a short season of pleasant weather in the Central and Atlantic Coast States usually occurring in October or November, more rarely in December, and characterized by an almost cloudless sky, calm or light airs, a hazy atmosphere, and mild temperature in the daytime, but rather cool at night. It may last one or two weeks and may recur two or three times during a season, but rarely more than twice.

Q. What was the lowest atmospheric pressure ever recorded and at what altitude was it? J. W. M.

A. The Weather Bureau says that the lowest pressure of which it has record is 7.4 millimeters or .291 inch. This pressure was recorded in a sounding balloon ascent at Avalon, California, on July 30, 1913, at a height of 32,643 meters or 107,095 feet or approximately 20.3 miles.

LXVIII

WEIGHTS AND MEASURES

Q. Can anything be wider than it is long? A. L. L.

A. It is not possible for an object to be wider than it is long, since length is the name applied to the greater of the two dimensions.

Q. Is there any country that measures distance by the day's walk? W. T.

A. The li, a Chinese measure of length, is the equivalent of one one-hundredth of a day's walk, very slightly exceeding one-third of an English mile on the level, but in a hilly country it might be as little as one-eighth of a mile.

Q. Was the yard originally the length of a King's arm? E. A.

A. It is said that the yard was originally defined by royal decree as the length of the arm of King Henry I. The British yard is now the distance at 62° F., between two lines on a bronze bar kept at the Standards Office, Westminster, London.

Q. Why is a nautical mile longer than a statute mile? P. R.

A. The statute mile is based on the arbitrary fixing of the length of a smaller unit of measure, while the nautical mile is the unit itself. It equals one minute of arc at the equator. There are 60 minutes in each degree, 360 degrees in the circumference; therefore, there are 21,600 minutes or nautical miles in the distance around the earth at the equator. Dividing a nautical mile into the foot measure of this land mile, there are 6,080 feet in the nautical mile while there are but 5,280 feet in the statute or land mile.

Q. What were the ancient Roman units of lineal measurement? W. M. L.

A. The Roman system of measurement contained the pes (foot), cubitus, passus, pertica, mille passuum, stadia.

Q. How would one figure the amount of water a roof will catch for cistern purposes? S. R.

A. A rainfall of 1 inch on a roof of 3,000 square feet would mean a total of 250 cubic feet, or about 41.5 barrels of 45 gallons each, enough to fill a cistern 8 feet in diameter to a depth of 4.97 feet. This does not consider possible loss from splashing, etc.

Q. What is the smallest fraction of an inch that can be measured? M. P. S.

A. The Bureau of Standards says that in high grade tool and gage shops measurements are regularly made to ten-thousandths and hundred-thousandths of an inch. At the Bureau of Standards precision gage blocks are tested to an accuracy of from one to five-millionths of an inch, by light interference methods. The ultra-micrometer is capable of detecting differences of one-billionth of an inch.

Q. Is there an easy way that the heights of a tree can be computed by measuring its shadow? M. S.

A. Take a stick of definite length and measure the shadow of

the tree. Find the length of the shadow of the stick by holding it at right angles to the ground. Multiply the length of the tree's shadow by the length of the stick and divide by the length of the stick's shadow.

Q. When children are measured on a measuring board, why is the length or height given in centimeters? G. A. T.

A. The Children's Bureau says that the centimeter scale is used in scientific reports, but the inch scale is used in popular demonstrations.

Q. Is there such a thing as a circular inch? P. L. O.

A. A circular inch is the area of a circle one inch in diameter, as distinguished from the square inch.

Q. How many units are there in a great gross? H. M. U.

A. There are 12 gross or 1728 units in a great gross.

Q. What is specific gravity? J. O'L.

A. Specific gravity is the ratio weight of a body to the weight of an equal volume of some other body taken as the standard or unit. Water is usually the standard for solids and liquids, while air is the standard for gases. Thus, 19, the specific gravity of gold. shows that, bulk for bulk, gold is 19 times as heavy as water.

Q. What is a point in measuring type? L. T.

A. A point is one-seventy-second of an inch, that is, there are seventy-two points to an inch.

Q. What is meant by seven pound lead? D. F. S.

A. In plumbing, the term is used to indicate sheet lead of such thickness that one square foot would weigh seven pounds.

Q. How is the length of a step determined? M. W.

A. To ascertain the distance covered in a step or stride, measure from heel to heel or toe to toe. Ordinarily the pace is estimated at 2.5 feet; but in measuring distance by stepping, the pace is extended to three feet (one yard) or to 3.3 feet (one fifth of a rod.)

Q. How many yards are there in a skein? G. V. M.

A. Cotton yarn has 840 yards to the hank or skein, worsted yarn has 560 and woolen yarn, 1,600.

Q. Why is twelve inches called a foot, and why is the name foot used for a unit of measure? W. W. D.

A. The foot as used in present measurement of length is derived from the length of the human foot. The inch was selected for purposes of convenience. The word is from the Latin uncia meaning a twelfth part.

Q. What is the most delicate scales known? E. E. B.

A. The Bureau of Standards says the most sensitive balance that is being sold is what the makers call a micro-balance built by a Swedish manufacturer of scientific instruments. The balance will carry a load of not over 0.1 gram which is a little over 0.0035 ounce, and is said to be sensitive to one millionth of a milligram or to 0.000000000035 ounce. Such small balances as these are not made for the sake of weighing light substances, but are for weighing small amounts accurately, or for detecting very small changes in weight. Particles of ordinary solids so small that they could not be seen without the aid of a microscope can be weighed on this sort of a balance.

Q. What distance is meant by a hair's breadth? S. L.

A. A hair's breadth is 1-48 of an inch.

Q. What does a cubic foot of snow weigh and what snow load is considered in building? W. O. C.

A. According to an engineering manual, one cubic foot of fresh

snow, depending upon the humidity of the atmosphere, weighs from 5 to 12 pounds. One cubic foot of snow moistened and made compact by rain weighs from 15 to 50 pounds. In snowy localities, the minimum snow load per horizontal square foot of roof should be considered as 25 pounds for slope up to 20 degrees. For each degree increase in slope up to 45 degrees, this load may be reduced one pound. Above 45 degrees slope, no snow load may be considered. In specially severe climates, this allowance should be increased in accordance with actual conditions.

Q. What part of a measuring cup is an ounce of water? P. P.

A. It is one-eighth of a cup or two tablespoons.

Q. How can the amount of hay in a barn be estimated? L. E. G.

A. Measuring hay in the barn depends somewhat upon the kind of hay, the depth of the hay, and the length of time it has been stored. It is safe to count approximately 512 cubic feet for a short ton. This refers to hay that is well settled.

Q. Why was the carat adopted as a measure for weighing gold? F. D. B.

A. Carat derives its name from qirat which in Arabic signifies the pod of the coral tree of Abyssinia, the seeds of which have from time immemorial been used in the East in weighing gold because they never vary in weight when they are dry.

Q. How can I estimate how much coal there is in a bin? E. K.

A. The Bureau of Mines says that, roughly guessing, 40 cubic feet will hold one ton of anthracite coal and 45 cubic feet, one ton of bituminous coal.

Q. How much is a weight ton as applied to United States shipping? T. B.

A. The United States Shipping Board says that the weight ton in the United States and in British countries is the English long or gross ton of 2240 pounds. In France and other countries having the metric system, a weight ton is 2204.6 pounds.

Q. What is a klafter? C. A.

A. The klafter was a measure formerly used in Austria. It is equal to 2.0740 yards.

Q. What is a Cape foot? J. J. D.

A. A Cape foot is a South African unit of measure equal to 1.033 English feet.

Q. Is any unit of weight in Troy weight the same as avoirdupois? S. J. S.

A. The grain is the same and originally was probably the weight of a grain of wheat. An avoirdupois pound contains 7,000 grains and a Troy pound 5,760 grains.

Q. How long is a degree? F. L. W.

A. The length of degrees varies. At the equator a degree of latitude is equivalent to 362,756.5 feet. At latitude 40 it is equal to 362,283.7 feet. At latitude 0, a degree of longitude equals 365,228.6 feet, and at latitude 40, 281,173.5.

Q. What is the length of the measure half a nail? H. N. V.

A. The term nail is used as an old English measurement of 2½ inches, or 1-16 of a yard. A half-nail is 1 1-4 inches. While these measures appear on the reverse side of some yard sticks, they are seldom used.

Q. Is it possible to measure a film of oil on water? O. B.

A. Profesor Perrin, the French authority on atoms, has measured a film of oil on water that was a fifty-millionth of an inch in thickness.

Q. What is a man-mile? J. T. M.

A. Man-mile is an aeronautical term. By man-miles is meant the number of miles flown by each man in any one plane. For instance, a plane carrying two people to a station 50 miles distant and return, will carry out 200 man-miles of cross country flight.

Q. Is the distance from city to city measured in a straight line, or along a road? W. C. H.

A. The Geological Survey says that the distance between two cities is generally measured along a public road or railroad from the center of one city to the center of the other unless actually specified from outside boundaries.

Q. Why is 13 called a baker's dozen? C. G. A.

A. It is supposed that at a time when fines were imposed for short weight, bakers added an extra unit to the dozen to be on the safe side.

Q. How long was a cubit? J. R. A.

A. The length of the cubit is derived from the length of the forearm. From a number of Egyptian measuring sticks found in the tombs of Egypt, the cubit is ascertained to be equal to 20.64 English inches. The Roman cubit was 1½ Roman feet, or 17.4 English inches. These are the only two cubits whose lengths are undisputed. Two cubits are mentioned in the Bible. The shorter of these was probably that which is called the cubit of man and the longer is called the cubit after the first measure. Julian of Ascalon speaks of two cubits in the ratio of 28 to 25. We have no accurate knowledge, however, of the Hebrew cubits since the cubit of the temple is estimated variously by high authorities as from 19 to 26 inches.

Q. Can the measurement of an atom be taken? K. D.

A. An atom can not be measured directly. Its weight must be calculated from various physical and chemical laws.

Q. How did the acre measurement of land originate? M. B. C.

A. Acre, originally a field, pasture, or hunting ground, later came to be a rough measure of ground and was held to be what one man could plow in one day, or (in England) what a yoke of oxen could plow in one day.

Q. Is a cubic foot of iron lighter than a cubic foot of gold? G. L. H.

A. One cubic foot of pure gold weighs 1,200.9 pounds, while a cubic foot of cast iron weighs 450 pounds, and one cubic foot of wrought iron weighs 480 pounds.

Q. How is the depth of the ocean measured? S. F .

A. The Navy Department says that the depth of the ocean is measured by a long thin wire which is wound on a drum so that when wound up it is like the thread on a spool. At the end of this wire which is lowered a heavy leaden weight is attached. The ship must be perfectly still so that the wire will go direct to the bottom and not at an angle. The leaden weight pulls the wire off the spool until it hits the bottom. There is a counter arrangement on the spool which shows the number of times the lengths of the wire have been taken off the spool and thus indicates the entire length of wire which has descended. In this way the depth of the ocean at that point is ascertained.

Q. What is a foot-pound? V. M. B.

A. A foot-pound is the quantity of work expended in raising a weight of one pound through a vertical distance of one foot.

Q. What is a miner's inch of water? E. W. G.

A. One miner's inch will irrigate from 5 to 10 acres, the miner's

inch equaling 12,960 gallons in 24 hours, or almost exactly 0.02 second-foot.

Q. Are the average weights of men and women also considered correct weights? J. P.

A. Average weights are usually compiled from insurance figures and are merely what the adjective implies. Ideal weights differ somewhat. An authority on dietetics says that average and ideal weights are nearest together when individuals are between 20 and 25 years of age. As the years progress the average weight is higher than the ideal weight.

Q. Does a steel measuring tape vary in length in hot and cold weather? E. L. R.

A. It varies according to temperature.

Q. What weight should a horse carry being 14½ hands high and weighing 825 pounds? M. A.

A. The Bureau of Animal Industry says that it would be impossible to say exactly what weight a horse weighing 825 pounds and standing 14½ hands high could bear without injury. Such a horse would be considered underweight and underfed for army purposes. In any case 150 pounds would be the extreme weight which a young horse of this size should carry for any length of time.

Q. Why is a furlong so named? R. E.

A. The furlong, or 220 yards, originally meant the length of a furrow. It was supposed to be the distance oxen could plow without stopping to rest.

Q. What is the weight of an English stone? T. E. P.

A. The legal English stone equals 14 pounds avoirdupois.

Q. How is tonnage computed? P. O. D.

A. Multiply together the length, breadth and depth, multiply this product by 0.75 and divide by 100. LxBxDx0.75 divided by 100 equals tonnage.

Q. What is the unit of force? A. M. W.

A. The unit of force is that force which, acting on one gram of matter for one second, will give it the velocity of one centimeter per second. It is called the dyne. It is approximately the force exerted by a milligram weight under the influence of gravity.

Q. How can I tell how much a can will hold? R. K. D.

A. Measure the diameter and height of can in inches. Multiply the diameter by itself and the product by the height: take one-third of one per cent of the total and this answer will be the number of gallons, correct to one-fiftieth. For exact result, two per cent of total may be added.

Q. When a recipe calls for two ounces of bread crumbs, how can I measure them in a cup? T. M.

A. One cup of stale bread crumbs is equal to two ounces.

Q. How many pounds are there in a bale of sisal? M. M.

A. The Department of Agriculture says sisal and henequen are usually packed in bales of approximately 400 pounds each, though the weight varies from a litle over 300 pounds to more than 500 pounds on different plantations. The manufacturers would prefer to have uniform bales of 400 pounds.

Q. What system of weights and measures is used in the Philippines? A. T. E.

A. The metric system of weights and measures is used in the Philippine Islands.

Q. How can one find the capacity of a barrel, knowing the diameter of each end and the middle, and the height? R. N.

A. The following is the formula for finding the volume of a cask or barrel of any form: Add together 39 times the square of the bung diameter 25 times the square of the head diameter and 26 times the product of the diameters. Multiply the sum by the length and divide by 31,773 for the content in Imperial gallons, or by 26,470 for U. S. gallons. This rule was framed by Dr. Hutton, on the supposition that the middle third of the length of the cask was a frustum of a parabolic spindle and each outer third was a frustum of a cone.

Q. When distance is measured in light years how can it be changed to miles? W. B.

A. Such a measure is used in computing the distance of stars. A light year is 6,000,000,000,000, miles.

Q. When did the cubit cease to be a unit of measure? J. L.

A. The cubit was superseded by modern forms of measurement because it was extremely cumbersome and it varied in different countries. From the earliest civilized times of Babylon and Egypt until after the Middle Ages in Europe there was litle progress in arithmetric, notation and computation, until the Arabic numerals were introduced in the 15th century. No real progress was made until the beginning of the 17th century when Napier introduced logarithms and Briggs introduced the decimal notation for fractions. Until that time most persons adhered to the notation of the ancients. In 1793 La Grange, President of the Commission for Reform of Weights and Measures, in Paris, proposed the decimal system which led to the introduction of the present metrical system now in use in Europe and the absolute departure from ancient tradition.

Q. I have some measurements and they include one for scye. What does this mean? C. G.

A. The scye is the armhole or opening in a garment for the attachment of the sleeve

Q. Has the size of a molecule ever been determined? W. N.

A. Molecules are extremely minute, but have a definite size and weight for each definite substance. The number of molecules in one cubic inch of air is 43 million million million.

Q. Is there a fixed legal weight for a sack of flour? D. S. N.

A. In the United States a sack of flour signifies 140 pounds, while in Great Britain it is 280 pounds.

Q. What is meant by an ell in the saying, "Give him an inch he'll take an ell"? K. L. C.

A. The ell is an English unit of measure equal to 45 inches.

Q. Is a knot a unit of distance or of speed? J. F.

A. A knot is a unit of speed equivalent to one nautical mile an hour.

Q. When large quantities of gold are weighed, are troy pounds used? W. A. D.

A. Even for large quantities the weight is computed in troy ounces, not troy pounds.

Q. What is a slide rule? V. C.

A. It is an instrument composed of various scales the positions of which in relation to each other may be altered. It is used for the rapid performance of certain arithmetical operations. The scales may be engraved on straight rods, disks, or on the surface of a cylinder.

Q. What are the metric units of length and weight? T. E.

A. The unit of length is the metre, equal to 39.37 inches. The unit of weight is the gram, equal to 15.432 grains.

LXIX

WHITE HOUSE

Q. Was George Washington ever in the White House? E. G.

A. Washington never actually occupied the mansion but it is said that in company with his wife he walked through the rooms only a few days before his death in 1799.

Q. Who furnishes the music at the various White House receptions? B. M. G.

A. At all White House receptions the music is furnished by the United States Marine Band. An old order book of the Marine Corps shows that the band was to play at the Presidential reception at the White House as early as New Year's Day, 1803.

Q. How large are the White House grounds? M. G.

A. Thy comprise 17 acres within the fence.

Q. Does each President provide his own china when he enters the White House? F. M.

A. No. New china is provided only as it is needed. The latest addition was a set of Lenox selected by Mrs. Wilson.

Q. Is there a portrait of Benjamin Franklin in the White House? O. P.

A. There is such a portrait. It was carried away from Franklin's home in Philadelphia by Major André. André gave it to General Grey, who took it to England. Earl Grey, a descendant, sent the picture back to the United States with the request that it be placed in the White House and President Roosevelt agreed to do so.

Q. How many servants are employed in the White House? P. G. S.

A. A corps of 60 servants is required for the establishment.

Q. Why is the White House painted white? W. O.

A. The building was originally painted white to hide the marks of fire on the walls, which were all that remained standing after the British had fired it in 1814.

Q. How were the early furnishings of the White House obtained? Y. S.

A. In Jefferson's time the White House was furnished with articles brought from Philadelphia and which had been used by General Washington. During Madison's administration the mansion is said to have been refurnished "splendidly."

Q. What was the first public building in Washington? P. S.

A. The White House was the first building erected in the new capital.

Q. Who carries the President's messages to Congress? L. B.

A. There is a messenger whose official title is Assistant Secretary who carries speeches, messages, and other papers to Congress. There are numerous messengers in the White House for other types of duty.

Q. Who originally owned the land on which the White House was built? G. P.

A. Davy Burns, a Scotchman, owned a farm where the White House and Monument now stand. Washington had considerable difficulty in persuading Burns to sell. He insisted upon a proviso that the site of his own cottage could not be taken and that no lots should be sold for private buildings in its vicinity.

Q. Is there an underground passage from the Capitol to the White House? F. B.

A. The Capitol and White House are about one mile and a half apart, and are not connected by an underground passage. The House and Senate Office Buildings and the Library of Congress are connected with the Capitol by subways.

Q. Was the White House an original design or a copy? E. B.

A. The White House before the wings were added is said to have been a replica of the residence of the Duke of Leinster, whose ancestral mansion was located near Dublin, Ireland. The prize of $500 offered for a design for the White House was awarded to James Hoban, of Charleston, South Carolina, who was Irish.

Q. When was the White House first occupied? Y. I. T.

A. John Adams was the first President to occupy the White House in 1800.

Q. Was the White House completed when Thomas Jefferson became President? M. S.

A. It was not. The building was still in an unfinished state when Jefferson took possession. The principal stairway had not been built, and the East Room and some of the upstairs apartments had not been plastered.

Q. Did Thomas Jefferson design any part of the White House? R. O. H.

A. Jefferson prepared designs for the White House and submitted them anonymously. His plans were not accepted, but when he became President, he designed the terraces and colonnades that were added to the mansion.

Q. What kind of a desk does the President use? C. A. F.

A. The desk in the Executive Office is a massive oak table made from the timbers of H. M. S. Resolute, which vessel formed part of the expedition sent in search of Sir John Franklin in 1852.

Q. How many rooms has the White House? W. H.

A. There are 53 rooms.

Q. Who designed the White House? R. D. M.

A. The designer of the White House was James Hoban, born in Ireland about 1755. He came to the United States settling in Charleston, South Carolina, and later in Washington when the city was first being laid out. He worked for the Government for the greater part of his life. He is chiefly known for his work in connection with the White House, which he also rebuilt after the burning in 1814.

Q. Where is the clock presented to the United States by Napoleon? R. H.

A. You probably refer to the gold clock presented by Napoleon I to Lafayette, and by him to Washington. It stands on the mantel in the Blue Room of the White House.

Q. When was the White House built? S. G.

A. George Washington laid the cornerstone in October, 1792, and the edifice was completed seven years later. It was destroyed by the British in 1814, but immediately rebuilt by Hoban, the architect

who designed it. It was again ready for occupation in 1817, shortly after President Monroe was inaugurated.

Q. Will you please publish the formula for White House paint. W. B. S.

A. The paint used on the White House is made of 70 per cent white lead, 30 per cent French white zinc. Sufficient raw linseed oil is added to make the paint of proper consistency.

Q. Who guards the White House? D. J. H.

A. The Government maintains a White House police force of 30 privates and 3 officers at a cost of $59,000 per annum.

Q. When one's name is placed on the White House list why is it sometimes dropped again? G. H.

A. People in certain official positions, together with their families, are always entertained at the White House at some time during the season. Other friends and acquaintances of the President's family are added to the list of guests. In time the list may become so long that it has to be revised. The administrations of Presidents Wilson, Harding, and Coolidge touched so closely that the list took on very large proportions.

Q. What is the width of Pennsylvania Avenue at the Botanical Gardens and in front of the White House? F. B. M.

A. The District Building says that Pennsylvania Avenue in front of the White House has a width of 82.3 feet and in front of the Botanical Gardens, 107.6 feet.

Q. What shade of blue is used in the Blue Room of the White House? What tint in the other rooms? A. M. B.

A. The shade of blue at present in the Blue Room may best be described as a soft azure, approximately a grayish sky blue. The tint has changed slightly with different decorations through different administrations. At the present time the parlors and halls of the White House are being redecorated in an ivory color. The bedrooms, however, are not being redecorated. The bedrooms are in light colors such as pink, blue, gray, and yellow.

Q. Which way does the White House face? T. M. C.

A. The White House faces north. In the days of its construction it was regarded as also facing south, since the river front of a house was always as important as the one on the corresponding side of the building.

Q. Do they have regular painters detailed to paint the White House? A. A. W.

A. Three men are employed regularly and when the building is to be gone over entirely 10 or 12 men are taken on.

Q. When were the East Room and the White House porticos finished? T. E.

A. The East Room was finished in 1826; the South Portico in 1823; the North Portico in 1829.

Q. Which Mistress of the White House was it who first decided not to return calls? M. S.

A. Mrs. James Monroe introduced this custom. As one of the newspapers of the day put it "owing to the increase in the population of the District the task of the President's wife returning all calls was such an onerous one, as to make it practically impossible."

Q. What was the first name given the White House? S. L.

A. When the White House was provided for in the original design of the city it was known as The Palace. When it was first built it was The President's House. After it was burned by the British during the War of 1812 it was painted

white, and in popular parlance was soon called by its now familiar name, although officially it was known as The Executive Mansion until the late Theodore Roosevelt became its occupant. He gave his sanction to the title The White House and this is now its official name.

Q. What hours and days is the White House open to visitors? F. K.

A. It is open to visitors from 10 A. M. to 2 P. M. every day except Sunday.

Q. Were former President and Mrs. Taft the first to celebrate their silver wedding at the White House? G. W. H.

A. President and Mrs. Hayes were the first to celebrate a silver wedding anniversary in the Executive Mansion.

Q. Does a President bring his own furniture to the White House? J. K.

A. The furniture in the White House is owned by the nation. The new President brings only such personal belongings as he may care to have with him during his term of office, and removes the same when his successor is inaugurated.

Q. When were the wings added to the White House? M. W.

A. In 1903, during the administration of President Roosevelt, wings were added to afford enlarged Executive Offices on one side, and a cloak room on the other side of the White House.

Q. When did the custom of egg rolling on the White House lawns begin? G. L.

A. It is recorded that this custom dates back to Easter Monday, 1878, prior to which date the egg rolling had been carried on in the grounds of the Capitol. Mrs. Hayes gave the first of these parties for the children.

Q. Which Presidents have died in the White House? T. P.

A. William Henry Harrison and Zachary Taylor are the only Presidents who died in the White House.

Q. When was gas first used in the White House? E. O. D.

A. Gas was introduced into the White House December 29th, 1848, during the administration of President Polk.

Q. How long a time was expended in reconditioning the White House after its partial destruction in 1814.

A. Three years. It then stood with no changes except necessary renovation until 1903.

Q. How many sized flags are flown on the White House? M. L.

A. There are two flags used on the flag staff. A small sized one is used in bad weather, and on bright, clear days, a large flag.

Q. How many stenographers does the President have? I. E. B.

A. The White House says that there are ten stenographers to answer the incoming mail to the President. It has not been estimated exactly what percentage of the mail actually reaches the President.

Q. Who planned the wings to the White House? C. P.

A. The terraces follow a design by Latrobe made in 1803, but are now adapted for entrance way and offices. The modern architects in charge of the work were McKim, Mead, and White.

Q. How large is the Ellipse back of the White House? M. W.

A. The major diameter of the Ellipse is 1048 feet. It comprises 16 acres.

Q. What becomes of the President's private correspondence when he goes out of office? S. E. A.

A. The personal letter files of each President leave the White House with that President.

LXX

GENERALIA

Q. What town has the longest name? J. R.

A. What is believed to be the longest geographical name in the world is that of a town in Anglesea, Wales. In the postal directory only the first twenty letters are given as sufficient for practical purposes. The full name contains fifty-nine letters—Llanfairpwelgwyngyllgogerychwyrndrobwellhandyssiliogogogoch. The name means "The Church of St. Mary in a hollow of white hazel, near to the rapid whirlpool, and to St. Tisilio Church, near to a red cave." The longest geographical name in the United States is that of a lake at Webster, Massachusettes—Chargoggagoggmanchauggagoggchaubunagungamaugg.

Q. Do more women or men live to be a hundred years old? N. B. L.

A. On one list of persons reported as centenarians, 1561 were men and 2706 were women.

Q. When was the first fork brought to America? K. E.

A. In 1633, the first fork was brought to this country. It was in a leather case with a bodkin and knife. The owner was Governor John Winthrop.

Q. Why are berths made up on trains with the pillows toward the engine? D. B. T.

A. Passengers suffer less from drafts when sleeping with heads toward the engine, and faces and shoulders are better protected from dust and cinders.

Q. Why do sailors wear such wide, clumsy trousers? H. J. D.

A. All seamen wear trousers which are unusually wide at the bottom in order that when they are cleaning decks or landing in shallow water the trousers can easily be rolled above the knees.

Q. Where is the most powerful lighthouse in the world? N. A. R.

A. The most powerful lighthouse in the world has been erected on Mont Afrique, on the plateau of Dijon in France, for the purpose of guiding aircraft proceeding from and to Paris, Switzerland, Italy, and Africa. On a clear night the light of the beams is visible for 300 miles.

Q. Where is the largest bell in the world? N. H.

A. The bell of Moscow is the largest. It was cast in 1733; it is 21 feet high, 21 feet in diameter, and weighs 432,000 pounds.

Q. How long is Broadway, New York City? E. S.

A. The President of the Borough of Manhattan of the City of New York says that the length of Broadway within the city limits of Greater New York is approximately fifteen and one-half miles.

Q. Where is the busiest corner in the world? H. C. S.

A. Recent investigations indicate that 7th and Broadway, Los Angeles, is the most congested intersection in the world. Other busy corners are Hyde Park Cor-

ner, London; 5th Avenue and 42nd Street, New York City; Times Square, New York City; Columbus Circle, New York City; and Place de l'Opera, Paris.

Q. Do as many people own their own homes in the United States as there are renters? N. G. P.

A. According to the 1920 census slightly less than 11,000,000 families in this country owned their homes, while almost 13,000,000 families rented their homes.

Q. What city covers the most territory? A. H. F.

A. Honolulu is said to be the most extensive city in the world. Its most northern ward is Midway Island, 1200 miles from the city hall, and its most southern includes Palmyra Island some 1000 miles south.

Q. Would wearing a wrist watch while typewriting cause it to lose or gain time? L. P.

A. Many jewelers claim that the typewriter injures the works of a wrist watch. In some watches, the constant movement tends to make them gain, while in others it causes them to lose.

Q. What per cent of the men applying for life insurance are rejected? E. O. K.

A. According to one life insurance company, there is a general rejection rate of approximately 7 per cent of the cases.

Q. Can you give me a list of some famous men who were never married? I. S.

A. Petrarch, Michelangelo, Sir Isaac Newton, Rafael, Chopin, Liszt, Nicholo Paginini, Schopenhauer, Charles Lamb, John Greenleaf Whittier, Swinburne, Lord Kitchener, Cecil Rhodes, Phillips Brooks, Alfred de Musset, Voltaire, Lord Leighton, Walt Whitman, Lewis Carroll, and Henry James.

Q. Where is the world's largest concert hall? F. O.

A. The Cleveland Auditorium, seating 12,500, is believed to be the largest concert auditorium in the world. It was opened April 15, 1922.

Q. How much sweeter than sugar is saccharine? T. L. S.

A. It is 550 times as sweet as sugar.

Q. What makes telegraph wires hum? L. W.

A. Humming of wires is caused by the wind. The wire has a natural frequency of vibration the same as a piano string and the wind sets it to vibrating. The fundamental frequency is too low to be heard, but some of the harmonies are audible. The fundamental is given by the wire vibrating as a whole, the harmonies by the vibrating in sections; many of these are ordinarily set up at the same time.

Q. How high and low a note can the human ear hear? E. C.

A. The Eutde says that the compass of human hearing is about 88 notes or the extent of the modern piano.

Q. Who was the first man in this country to install a bathtub in his home? W. T. G.

A. The first bathtub in the United States was installed by Adam Thompson, a wealthy grain and cotton dealer of Cincinnati, in 1842. He had lately returned from London where he had heard that the Prime Minister had such a device. On December 20, 1842, he had a party of gentlemen to dinner, all of whom tried out the new invention. The following day, the story was in the papers and Thompson was attacked both by doctors and politicians. We do not find that Thompson was required to pay a fine, but the discussion in connection with the bathtub resulted in various measures for the restriction of its use. The Common Council of Philadelphia considered an ordinance to prevent

any such bathing between the months of November and March. Virginia laid a tax of $30 per year on all bathtubs and extra heavy water rates. In Boston there was an ordinance forbidding their use except on medical advice.

Q. Are the majority of our prominent people city or country bred? A. E.

A. Recently Mr. Fred Adams Woods analyzed Who's Who in America and found that cities of more than 8,000 inhabitants have furnished about twice as many prominent men as their percentage of the total population would lead one to expect.

Q. What is the cause of twitching of the eyelids? B. T. M.

A. This condition is frequently associated with overwork and particularly overstudy. There may be associated errors in refraction, causing eyestrain and when this condition exists, it may be relieved by glasses. Twitching of the eyelids may also be due to inflammation of the eye and will cease when the condition is cured.

Q. What is the legend concerning the blarney stone? E. R. L.

A. This famous stone is in the ruins of old Blarney Castle, near Cork, and is said to give the one who kisses it the power of saying agreeable things. From this story comes the word blarney, a term for any very complimentary or flattering talk.

Q. How much were Congressmen paid when our Government was formed? A. T. V.

A. Until 1814 the rate was $6.00 a day during actual time Congress was in session. At this time, on account of the increased cost of living, the pay was increased to $1500 a year, regardless of length of time that Congress sat.

Q. How much wool is there in a suit of clothes? R. T. G.

A. It takes about nine pounds of wool to make an average man's medium weight pure wool suit.

Q. Are there seasons when the hair grows faster? J. R. M.

A. Hair grows faster during the warm weather than during cold, and faster by day than by night.

Q. Were the colors red, white, and blue in our flag chosen because of any special significance? D. C. G.

A. According to a statement of the Continental Congress, the colors of our flag were decided upon because white signifies purity and innocence; red signifies hardness and valor; and blue indicates vigilance, perseverance, and justice.

Q. When was the first world's fair held? R. E.

A. The first industrial exposition in which all nations might participate was held in the Crystal Palace, London, from May 1 to October 1, 1851. France held an Exposition Universelle in 1855 and in 1862 the English had their second great international exposition in London.

Q. How fast has a wheel been turned? P. M. S.

A. Probably the fastest turning wheel in the world is the turbine wheel on special supercharger of the airplane used by Lieut. John Macready in attempting to break the world's altitude record. It makes 40,000 revolutions in a minute—about 700 a second.

Q. When was the first newspaper published? M. T.

A. Newspapers can be traced back to antiquity. The Romans and Chinese had issues similar to our modern newspapers. The most noted in Rome was the Acta Diurna. The Peking Gazette was published from 714 to 741. The earliest newspaper in the United States was Public Occurrences issued in the year 1690 in the form of a small quarto sheet.

Q. What is white coal?

A. The term white coal is a figurative expression used for water power.

Q. How fast does a dream take place? N. B.

A. Scientists have conducted various experiments to demonstrate the rapidity with which a dream takes place. In one particular instance, the sprinkling of a few drops of water on a man's face caused a dream in which the events of a whole lifetime passed before him. The whole process took but a second or two of time. The great rapidity of dreams is due to the fact that in the unconscious state all the individual's life experiences are on view as if in one flash.

Q. In how many states can matter exist? F. C.

A. It exists in three states—solid, liquid, and gaseous.

Q. Where is Julius Caesar buried? R. N.

A. The historian Froude says that Caesar's body was burned in the Forum, and that the remains were collected and deposited in the tomb of the Caesars in the Campus Martius.

Q. How could I estimate the amount owed by Great Britain to the United States? K. F. D.

A. A statistician recently stated that the amount which will be paid by Great Britain to the United States in settlement of her war debt with interest would equal $2,500 for every letter in the Authorized Version of the Bible from the first letter of the Book of Genesis to the last letter in the Book of Revelation. There are 2,728,100 letters in the Old Testament and 838,380 letters in the New Testament.

Q. How many readers are reckoned to each newspaper sold? J. D. T.

A. Newspaper publishers multiply their circulation by three in arriving at the probable number of people reached by their papers. Magazine publishers arrive at their approximate number of readers by multiplying the circulation by five.

Q. Is there any country in which the wife does not take her husband's name upon marriage? L. B.

A. In most nations the wife changes her surname on marriage to that of the husband, but in Spain she retains it and the son may adopt either the maternal or the paternal name, or use both.

Q. How many prizes were given at one time in the Louisana Lottery? C. G. B.

A. As the scheme was finally arranged, there were 3434 prizes at each drawing.

Q. What countries did Napoleon rule? H. S.

A. At one time or other during his career Napoleon controlled France, parts of Italy, Russia, Prussia, the Netherlands, Spain and Portugal.

Q. What is the oldest cross-word puzzle? J. J.

A. For many years the archaeologists have been trying to solve what is believed to be the oldest cross-word puzzle. It was made by a Cretan about 2000 years ago and a copy of it now lies in the archaeological museum at Johns Hopkins Hospital, Baltimore. This puzzle is called the Phaestus disk. It was found on the Island of Crete by an expedition many years ago.

Q. Is there a way to paint screens so that people on the inside can see out, but those on the outside can not see in? P. F. C.

A. The Bureau of Standards suggests that a white paint be used on the outside and a black paint on the inside of the screens.

Q. To whom belongs the credit for the idea of burying an unknown soldier? A. W. S.

A. When questioned on the subject in Parliament, Lloyd George did not reveal the name of the man who first suggested the burial of an unknown soldier. It is generally established, however, that the suggestion was made by J. B. Wilson, news editor of a London paper.

Q. How many persons were guillotined during the Reign of Terror of the French Revolution? W. G. H.

A. There are no exact figures, but up to June, 1794, there had been 1220 executions and during the next seven weeks there were 1376. It is estimated that about 4000 persons lost their lives in this manner during the entire period.

Q. What attributes of the eagle make it appropriate for the National Emblem? F. T.

A. Some of them are: its size, strength, keenness of vision, and powers of flight.

Q. What are the seven follies of science? T. A. C.

A. The so-called follies of science are: the quadrature of the circle; the duplication of the cube; trisection of the angle; perpetual motion; transmutation of metals; fixation of mercury; the elixir of life.

Q. What good are eyebrows? A. G.

A. Eyebrows protect the tissue above the eyes and have a great cosmetic value in being an agent for softening hard facial features and by contrast enhancing the beauty of the skin. Eyebrows are said to create a proportionate cosmetic value for the nose, brows, and forehead and accentuate the contour of the face.

Q. Why does a bump follow a knock on the head instead of a dent? E. J.

A. When a person bumps his head the soft tissues covering the bone are elastic and are stretched like rubber. While at the time of the bump there is a dent, the tissues straighten out, but some of these on the sides of the bump are injured and some even killed. Nature's way to cure the place where the injury occurred is to fill it with blood. The little white cells of the blood take up and carry away the dead tissues and fill this place with blood which causes the swelling.

Q. Are natural flower essences used in this country in the making of perfumes? P. J. T.

A. Natural flowers are used in the making of perfume, but the oil is not extracted from the natural flowers in this country. We import these essences from France, Bulgaria, Italy and other foreign countries.

Q. Who lighted the lamps in the belfry tower of Old North Church on the night of Paul Revere's midnight ride? I. D.

A. There has long been a controversy between the descendants of two families concerning the identity of the friend of Paul Revere's who placed the signal lantern in the Old North Church in Boston. Some claim that the lights were placed by Robert Newman, at that time sexton of North Church, others contend that it was John Pulling, an intimate friend of Revere's from the time of his boyhood. Historians for the most part now give the credit to Newman.

Q. How many school children visit the Nation's Capitol each year? A. G.

A. It is estimated that 50,000 school children come to Washington each year.

Q. Q. How much ground must be devoted to cemeteries in cities in proportion to the population? L. M. G.

A. If 4000 corpses are crowded into an acre, and a mortality rate of 15 per 1000 be assumed, then nearly four acres per 1,000,000 population are required annually to bury the dead.

Q. Who is called "The Father of the Circulating Library"? W. S.

A. Benjamin Franklin.

Q. What has become of Sergt. Alvin C. York? G. M.

A. Sergt. York is interesting himself in an industrial school for his mountain neighbors in Tennessee. It is to be called the Alvin C. York Industrial Institute. He started funds for the project by giving $15,000 which he earned by lecturing. Land and funds have been donated, and the school is to be a vocational high school with particular attention given to industrial and agricultural subjects.

Q. Why is a ship spoken of as "she"? A. S.

A. In some of the older languages such as Latin and Old German, from which modern languages have been derived, all inanimate objects were given masculine or feminine gender. In this way the moon was feminine and the sun, masculine, and among other things, ships and other vehicles were generally spoken of in the feminine gender. Modern languages have adopted this same idea; therefore, the reason for speaking of a ship and train as "she."

Q. What green vegetable is most productive? G. W. S.

A. Common cabbage is said to be the most productive, for it is believed that an acre of ground will yield a greater weight of green vegetable matter in the shape of cabbage than in that of any other vegetable.

Q. What British flag was flown on the Mayflower? W. R.

A. "Flags of the World" says that the union flag at that time was probably displayed from the mast head. It was a blue flag on which the red cross of St. George and the white cross of St. Andrew had been united in honor of the union of Scotland and England in 1603, when James IV of Scotland ascended the throne of England as James II. The Mayflower also displayed St. George's cross—a red cross on a white field—at the foremast, and the red ensign—a red flag with a St. George's cross in the upper corner next the staff.

Q. What liquid is used in the center of golf balls? H. C.

A. A. G. Spalding and Bros. say that various soft-cored golf balls contain different materials, but their own are compounded from glue, water, and a white pigment.

Q. How many different kinds of vegetables are used for food? K. T. L.

A. Most families use but 12 or 15 different kinds of vegetables, but the large markets in our cities have for sale throughout the year about 50 varieties.

Q. Are the waves on the Great Lakes ever as high as on the ocean? K. W. O.

A. Waves have been measured in various parts of the ocean reaching heights of from 30 to 40 feet. In the South Atlantic and South Pacific it is thought that storm waves in their fullest development have reached 50 feet. Lake Superior has the largest waves, and it is thought probable that during severe storms waves may be encountered in deep water of a height of from 20 to 25 feet.

Q. What is the origin of the term "plus fours" for knickers? R. U.

A. The Haberdasher says that golfers found regular knickerbockers a bit uncomfortable for golfing. Designers of men's apparel therefore drafted a pattern in which four inches were added to the in-

side seam of each leg of knickerbockers which had a standard length of 20 inches. This provided for the drop of the "plus fours."

Q. What is a charade? J. H. B.

A. A charade is a form of amusement which consists in dividing a word of more than one syllable into its component syllables or parts and then representing each syllable and then the whole by means of dialogue or acting. The word has to be guessed.

Q. How many of the Signers of the Declaration of Independence were college men? A. M. E.

A. The Bureau of Education says that 23 of the 56 signers were college-bred, nearly all of them graduates. Harvard was represented by 8; William and Mary by 3; Yale, 3; Cambridge (England), 3; Princeton, 2; Philadelphia, 2; Edinburgh, 1; Jesuit College at Rheims, 1. Sixteen others received "excellent" or "classical" education, one of them at Westminster School, London. Two obtained all their formal instruction from tutors; and 16, including Franklin, Wythe, Roger Sherman, and Robert Morris, had but little schooling.

Q. What Americans are represented in Westminster Abbey? C. G.

A. The Poets' Corner contains a bust of Longfellow, and there are tablets to Lowell and Walter Hines Page in the vestibule of the Chapter House.

Q. How many saloons were put out of business by prohibition? S. W.

A. The Anti-Saloon League says that there were 177,790 saloons, 1090 breweries, and 236 distilleries in the United States.

Q. Is is cool inside the Great Pyramid? T. W. E.

A. It is considerably cooler than the outside air. It is, however, excessively hot. Mr. L. Dow Covington who cleared out one of the ventilator shafts leading from the King's Chamber succeeded thereby in lowering permanently the temperature several degrees, and there is an Arab tradition that if the other shaft were also cleared out the current of air circulating through these passages would not only cool the interior still more but that there would be generated beautiful harp-like music.

Q. What is the meaning of each of the primary colors? A. W. D.

A. The primary colors have been interpreted symbolically in many ways. For example, Carl Gutherz, in the Library of Congress, has used the spectrum of light as the theme of his mural decorations. His symbolism is as follows: red is the light of poetry; orange, the light of excellence; yellow, the light of creation; green, the light of research; blue, the light of truth; indigo, the light of science.

Q. What were the duties of the Prince of Wales during the World War? J. F. T.

A. The Prince of Wales went to the front in November, 1914, attached to Sir John French's staff. He served as bearer of the historic dispatch from French regarding the battle of Neuve Chapelle. In March, 1916, he went to Egypt on an appointment as Staff Captain on the staff of the General Office commanding the Mediterranean Expeditionary Force. He visited the Italian front during Austria's attack in November, 1917.

Q. What was the nature of the oath taken by the young men of Athens? Y. E. R.

A. The Oath of the Ephebi provided that the youth in question swear never to disgrace their arms or to desert their comrades; to fight to the last in defense of their country, its altars, and its hearths; to leave their country not in a worse, but a better state than they found it; to obey the magistrates and the laws; to resist the attempts to subvert the institutions of At-

tica; and to respect the religion of their forefathers.

Q. How much paint does it take to cover the Capitol dome? A. S. D.

A. Four thousand three hundred pounds of paint are mixed when the dome of the Capitol is painted. It takes thirty-five men about three months to complete the task.

Q. I need a lawyer in a foreign country. How can I get in touch with a good one? L. F. C.

A. A list of 8,000 investigated attorneys in foreign countries has been compiled by the Bureau of Foreign and Domestic Commerce, and this list is available to American manufacturers and their legal advisers.

Q. Why were the old type wooden bridges covered? E. J. S.

A. The covered bridge is a survival of an ancient custom. A great many of these bridges were built before the Revolutionary War and their builders followed the methods used by the old European bridge builders. The object of covering the roadway of the bridge was for the purpose of protection against the weather, and against possible riots and primitive weapons.

Q. What was the religion of Charles Darwin? D. K.

A. As a young man, Charles Darwin was a Christian. His later views on religion are best expressed by himself in his autobiography where he says: "In my most extreme fluctuations I have never been an atheist in the sense of denying the existence of a God. But I may say that the impossibility of believing that this grand and wondrous universe with our conscious selves arose through chance, seems to me the chief reason for the existence of God." Mr. Darwin frequently made use of expressions such as "with his godlike intellect," "I hope to heaven," but himself declared that he was subject to fluctuations of opinion on the subject of religion and declined in answer to inquiries to express a definite belief or disbelief.

Q. Where is the petrified forest out West? N. O. D.

A. The petrified forest of Arizona is in the eastern section of that State and contains 25,625 acres.

Q. What became of the flag that the Americans flew at Chateau Thierry? C. G.

A. The first flag raised at Chateau Thierry after the Germans retreated is in the Museum of the National Red Cross Headquarters in Washington.

Q. How was the chess wonder, Ajeeb of the Eden Musee, worked? K. H. S.

A. This contrivance was an automaton worked by a player who was concealed on the floor below, operating the machinery by means of mirrors.

Q. What American magazines have the largest circulations in the British Isles? W. L. L.

A. The Ladies' Home Journal heads the list with a circulation of 20,650; then comes the Saturday Evening Post, 7923; following are the Pictorial Review, McCall's Magazine, Literary Digest, Cosmopolitan, Woman's Home Companion, Red Book, and Good Housekeeping.

Q. What is the best kind of grass to plant in shady places? C. T. T.

A. The Department of Agriculture says that of lawn grasses the Rhode Island bent, creeping bent, and Canadian bluegrass do best in shade. Kentucky bluegrass stands shade well. In the South it does better in the shade than in the open. Along the Gulf Coast the grass known as carpet grass is well adapted to shade. Another good grass for shade on clay lands in the moist regions of the extreme South is the large water grass.

The following pages illustrate unique addresses on letters received by the author from all over the world.

1926
CALIF.

President Coolidge
To Frederick J Haskin
Washington Dc

Ask Haskin

1926
N. Y.

Washington

Mr Frederic HASKIN

Frederick J Haskin

(This one came from Fresno,
California without an address.

JUN 6 30 192 PA

Mr Information
Wash. DC.

Mr Frederic J. Haskin
Washington
Architect

Mr. Frederick J. Haskin,
Fountain of Knowledge,
Washington, D. C.

Mr Frederick J Haskin
Superintendent U.S. Mint

1 PM 1926 MONT.

To the Postman

There is herein a little ditty,
For F. J. Haskin, Washington City.

9 10 PM
1925
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Authentic Bureau of Inf
71 Washington

Professor Haskins,
Information Bureau
Washington, D.C.

1 PM
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ILL.

Mr. Frederic J. Haskin,

% White House,

Washington, D. C.

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Government

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Senator Mr Haskin

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Washington, D.C.

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